

Summary Petroleum and  
Selected Mineral Statistics  
For 120 Countries, Including  
Offshore Areas

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GEOLOGICAL SURVEY PROFESSIONAL PAPER 817



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By JOHN P. ALBERS, M. DEVEREUX CARTER, ALLEN L. CLARK,  
ANNY B. COURY, and STANLEY P. SCHWEINFURTH

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*A detailed study of onshore and offshore production, reserves,  
resources, and exploration and exploitation activity of  
oil and natural gas, including imports,  
exports, and production of copper, nickel,  
manganese, and cobalt*



**UNITED STATES DEPARTMENT OF THE INTERIOR**

**ROGERS C. B. MORTON, *Secretary***

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# SUMMARY PETROLEUM AND SELECTED MINERAL STATISTICS FOR 120 COUNTRIES, INCLUDING OFFSHORE AREAS

By JOHN P. ALBERS, M. DEVEREUX CARTER, ALLEN L. CLARK,  
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## INTRODUCTION AND ACKNOWLEDGMENTS

The purpose of this report is to bring together, in statistical form, available information on world-wide production, reserves, and resources, and certain other data relevant to some of the principal fuels and minerals that either are produced or are likely to be produced from offshore deposits. Data on 120 countries are included in a series of country profiles; of these, all but 14 border on oceans or inland seas.

The data were computerized for ready storage and retrieval and were placed in a resource data file. Coastal lengths and seaward areas to 200 and 3,000 meters of water depth and to a distance of 200 nautical miles offshore are given in table 1. Tables 2-8 show historical data on petroleum activity within the 120 countries with particular emphasis on production and resource potential, which have a direct impact on economics and trades. Tables 9-12 indicate imports, exports, and production of the four principal metals contained in manganese nodules. Tables 13 and 14 present 1971 oil and natural gas production, cumulative production, reserves, and resource information for the 120 countries, under six continental groupings. Subtotals for the continents and the 120 country totals are minimum values because of the unavailability of some data, particularly onshore-offshore production and reserves breakdowns for many countries.

The quantities of oil reported include varying amounts of natural gas liquids. All data are given for the latest year available at the time of this report.

The American system of punctuating numbers, in which periods indicate decimals and commas indicate units of thousands, is utilized throughout the report.

The following definitions and abbreviations are used: Thousand =  $10^3$ , million =  $10^6$ , billion =  $10^9$ , trillion =  $10^{12}$ , NA = not available, Negl = negligible, SI = shut in (well capable of producing, but production facilities are shut down).

When the data source quoted figures in the currency of a particular country, conversions were made according to "International Financial Statistics" (International Monetary Fund, 1972).

The continents designated are North America, South America, Europe, Asia, Africa, and Oceania as listed in "Status of the World's Nations" (U.S. Department of State, 1969b). Insular countries are identified with the nearest continent.

The basic information in the report was obtained from the dispatches of the U.S. Department of State, from various other unpublished reports including United Nations reports, from U.S. Bureau of Mines commodity specialists, and from sources in the list of published references. Geographical and geological data were compiled by E. G. A. Weed and J. I. Tracey, Jr. Gus Goudarzi was helpful in verifying data on copper, nickel, manganese, and cobalt. Robert M. Turner assisted in compiling the tabulated material. Nancy A. Wright arranged and implemented computerization of the data which resulted in tables 1-12. Richard F. Meyer provided invaluable technical assistance.

## TABULATED DATA ON INDIVIDUAL COUNTRIES

### EXPLANATORY NOTES

Category: Countries are categorized according to their relationship to the major bordering water body, if any, and categories are not necessarily exclusive. Four categories are used: landlocked, shelf locked, archipelago, and open shelf. Countries designated shelf locked do not have access to contiguous water deeper than 200 meters. For example, countries bordering the Baltic Sea are considered shelf locked but countries bordering the Red Sea are considered open shelf because the Red Sea exceeds 200 meters in depth. Countries designated archipelago comprise an island group on a shelf. The map "Boundaries of Separate Seabed Areas of Contrasting Topographic Gradients"

(U.S. Department of State, 1971) was used to determine shelf area.

**Bordering water body:** The fifteen major water bodies used are the Pacific, Atlantic, Indian, and Arctic Oceans; the Mediterranean, South China, Caribbean, East China, Japan, North, Red, Black, and Baltic Seas; the Persian Gulf, and Gulf of Mexico. For each country, water bodies are listed in order of decreasing length of bordering coastline.

**Coastal length:** Distances given in nautical miles represent the length of coastline which faces the sea exclusive of detailed irregularities. Data are taken from "Sovereignty of the Sea" (U.S. Department of State, 1969a).

**Shelf and margin:** For purposes of this study, the continental shelf is defined as the area within the 200-meter isobath. The seaward edge of the continental margin is defined by the 3,000-meter isobath. Areal figures given in square nautical miles are rounded to the nearest hundred. Data are from "Limits in the Seas" (U.S. Department of State, 1972).

**Geology:** Sedimentary and crystalline are used to designate the geology. Where both types of rocks occur, the first type listed covers more than 50 percent of the area. If the country has a bordering water body, the geology is limited to coastal onshore and offshore. For landlocked countries, the geology refers to the entire land area. Determinations were made from "World Subsea Mineral Resources" (McKelvey and Wang, 1970).

**Coastal and offshore placers:** Placer deposits are listed within classifications of active mines, known deposits or areas of exploration, and onshore source deposits. Minerals are indicated by the following symbols: Ag, silver; Au, gold; Cu, copper; Fe, iron; Hg, mercury; Ni, nickel; Pt, platinum; Sn, tin; Ti, titanium-bearing minerals; W, tungsten; c, coal; cr, chromite; d, diamond; g, sand and gravel dredging; lm, lime mud; ls, limestone; m, monazite; sh, shell; and z, zircon. Distribution of minerals was obtained from McKelvey and Wang (1970, sheet 2).

1. Imports and exports of oil and natural gas: Figures for imports and exports of oil include refined products unless otherwise indicated. A conversion factor of 7.3 barrels per metric ton (world average for crude) was used for imports. For exports, the following conversion factors for crude oil were used in converting metric tons to United States barrels of 42 gallons for each country.

	<i>Bbl per metric ton</i>		<i>Bbl per metric ton</i>
Albania	6.672	Kuwait	7.261
Algeria	7.713	Libya	7.615
Angola	7.206	Malaysia	7.709
Argentina	6.992	Mexico	7.104
Australia	7.640	Morocco	7.602
Austria	6.974	Netherlands	6.816
Bahrain	7.335	Neutral Zone	6.825
Bolivia	8.086	New Zealand	8.043
Brazil	7.315	Nigeria	7.410
Bulgaria	7.300	Oman	7.390
Burma	7.464	Pakistan	7.308
Canada	7.428	Peru	7.517
Chile	7.802	Poland	7.419
China, Mainland	7.300	Qatar	7.704
Colombia	7.054	Romania	7.453
Congo (Brazzaville)	7.478	Saudi Arabia	7.338
Czechoslovakia	6.782	Senegal	7.535
Ecuador	7.580	Spain	7.287
Egypt	6.929	Taiwan	7.419
France	7.287	Trinidad	6.989
Gabon	7.245	Tunisia	7.709
Germany (West)	7.223	Turkey	7.161
Hungary	7.630	United Arab Emirates	7.549
India	7.441	United Kingdom	7.279
Indonesia	7.348	United States	7.418
Iran	7.370	U. S. S. R.	7.350
Iraq	7.438	Venezuela	7.005
Israel	7.253	Yugoslavia	7.407
Italy	6.813		
Japan	7.352		

It should be understood that refined petroleum products have a broad range of specific volumes, ranging from 5.5 barrels per metric ton for petroleum coke to 11.6 barrels per metric ton for liquified petroleum gas.

- 2A. Annual production since 1960: In converting oil production figures from barrels to metric tons and metric tons to barrels, the conversion factors given above in the previous listing were used. If a country is not listed in the tabulation the world average of 7.3 barrels per metric ton was used. This also applies to cumulative production, proved recoverable reserves, and exports.

Natural gas production is gross production and includes flared, vented, or reinjected gas, unless otherwise indicated to be net (marketed) production.

- 2B. Cumulative production: Total cumulative production is for years indicated. Where pre-1960 production figures were not available, totals are given only for 1960-71.
- 3A. Proved recoverable reserves: Defined as estimated remaining reserves as of December 31, 1971, unless otherwise indicated.
- 3B. Potential resources (ultimate recoverable resources): The quantities of crude oil and natural gas that are believed to be present in the sedimentary rocks of unexplored or partly explored regions and that are potentially available through intensive exploration are estimates of the potential resources. The actual quantities that ultimately will be found and produced depend upon combinations of future developments in demand,

technology, and economics. The degree to which prognostic estimates and actual ultimate discoveries agree is a measure mainly of the validity of the estimation procedure and, to a lesser extent, of the adequacy of the exploratory efforts.

Each potential resource estimate in this report is given in terms of a numerical rating scale that represents a range of more-or-less rough approximations instead of a specific quantity that might imply a misleading degree of precision, accuracy, or certainty. The definitions of the rating categories are as follows. (Oil is in billions of barrels of 42 U.S. gallons, or 150 millions of metric tons. Gas is in trillions of cubic feet, or 30 billions of cubic meters.)

Category	Quantity of oil or gas
I -----	1,000 - 10,000
II -----	100 - 1,000
III -----	10 - 100
IV -----	1 - 10
V -----	0.1 - 1
VI -----	0.01 - 0.1
O -----	Less than 0.01

For the United States, where relatively abundant data exist, the estimates are relatively accurate. For countries with fewer basic data, resource estimates were obtained by comparing them with the United States on a regional basis; where an incompletely explored region is thought to be geologically similar to some area in the United States, the two were assumed to have the same resource potential per unit of surface area and an estimate was calculated. By then summing the individual estimates for all areas of each country, taking into consideration the entire surface area of each, the estimated oil-in-place and gas-in-place for each country were totaled. However, because of economic or geotechnical limitations, not all of the oil-in-place and gas-in-place can be recovered. Therefore, the in-place figures were multiplied by estimated fractional recovery factors and reduced totals (ultimate recoverable resources) for each country were obtained. A potential resource category was then assigned to each country, on the basis of these totals, by reference to the table of rating categories. Generally, the estimated resource assigned to a country will fall at about the midpoint of the class. Sometimes the combined offshore and onshore potential

will add up to the next higher class.

This procedure was followed for all recognized potential onshore areas and offshore areas to a water depth of 200 meters. The method was appropriately modified, wherever necessary, for countries or regions that have histories of petroleum exploration and development and for which specific data are available.

This work was based on the method of Hendricks (1965) and incorporates the most up-to-date data available from the petroleum industry literature. Historical data useful for the purpose of defining potential resources are those that have resulted from exploration, drilling, field development, reserve estimates, and production efforts. Data related only to marketing, refining, or transportation are not pertinent and have not been used.

4A. Number of production and exploratory wells completed in 1971: Production wells, often called development wells, are drilled within a proved field area with expectations of being completed as producing wells. Exploratory wells, often called wildcat wells, are drilled in an unproved area, although extensive preliminary exploration may have taken place, including geophysical reconnaissance, detailed seismic surveys, subsurface mapping, and the drilling of other exploratory wells.

"Offshore exploratory, < 200 m" refers to wells completed in water less than 200 meters deep (approx 100 fathoms or 660 ft). "Offshore exploratory, > 200 m" refers to wells completed in water deeper than 200 meters.

Where there was no drilling activity in 1971, but previous significant drilling was known to have taken place, these data are provided in a footnote to 4A. Where it is known that there has never been any drilling activity onshore or offshore in a given country, 4A reads: Number of production and exploratory wells completed *through 1971*, rather than *in 1971*.

4B. Number of wells producing in 1971: Producing wells include flowing and pumping wells. The totals include both oil and gas wells, where available. However, the number of producing gas wells was often not available.

5. Instances of licensing for offshore exploration for oil and gas: The terms used in this section are specifically defined in the Petroleum

Code of each country. The following general definitions can be used as a guide:

*Exploration permit.*—A nonexclusive permit authorizing only exploration (seismic, gravity meter, or coreholes) in a specific area during a finite period of time. Several companies may be granted exploration permits to the same offshore tract.

*Concession.*—An exclusive agreement, usually with a foreign government, permitting a company (or companies) to prospect for and produce oil and gas, or minerals, in a specific area for a specific period of time. There is usually a provision for a royalty to be paid to the foreign government.

*License.*—Seems to be used synonymously with concession.

*Exploration license.*—Similar to exploration permit, except that the company has an option to develop favorable areas. Productive area then becomes a "concession" with accompanying regulations.

*Production sharing contract.*—Under the terms of a production sharing contract, a company, or companies) contracts to perform all exploratory and development services for the government of the foreign country. The company does not own anything, but is only being paid (with production) for services performed. A typical example of terms of a production sharing contract is that the first 40 percent of the production goes to the company to repay it for its investment. Of the remaining 60 percent, 40 percent goes to the company and 60 percent goes to the foreign government.

*Joint venture.*—Two or more entities (companies or governments) participate in the implementation of a single venture and act as a unit. Joint venture is often used synonymously with consortium.

6. Investment in oil and gas exploration and exploitation: Only totals are indicated where no data were available on investors. Investments are given for a particular year, a specified period, or for the total cumulative period through 1971.
7. Imports and exports of copper, nickel, manganese, and cobalt: Copper, nickel, and cobalt figures are given in tons of metal in all forms. Metal exports may include reexports and scrap. Manganese figures are given in tons of gross weight of ore.
8. Annual production of copper, nickel, manganese, and cobalt: See "Imports and exports of copper, nickel, manganese, and cobalt."
9. Manganese nodule concentration within 50, 200, and 400 miles of coastline: Estimates for concentrations of manganese nodules were made from several sources including McKelvey and Wang (1970), Horn and others (1971), and Ewing and others (1971).
10. Instances of licensing for offshore exploration for hard minerals: Only information furnished by the Department of State was used.

## AFGHANISTAN

Category: Landlocked.  
 Bordering water body: None.  
 Coastal length: None.  
 Shelf area to 200-m depth: None.  
 Margin: None.  
 Geology: Sedimentary/crystalline.  
 Coastal and offshore placers: None.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports -----	2.2	0.3	1970	0	0	1970
Exports -----	0	0	1970	91.0	2.6	1970

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	-----	0	0	-----	0
1961 -----	0	-----	0	0	-----	0
1962 -----	0	-----	0	0	-----	0
1963 -----	0	-----	0	0	-----	0
1964 -----	0	-----	0	0	-----	0
1965 -----	0	-----	0	0	-----	0
1966 -----	0	-----	0	0	-----	0
1967 -----	0	-----	0	0	-----	0
1968 -----	0	-----	0	0	-----	0
1969 -----	0	-----	0	0	-----	0
1970 -----	0	-----	0	0	-----	0
1971 -----	Negl	-----	Negl	Negl	-----	Negl

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	-----	0	0	-----	0
1961 -----	0	-----	0	0	-----	0
1962 -----	0	-----	0	0	-----	0
1963 -----	0	-----	0	0	-----	0
1964 -----	0	-----	0	0	-----	0
1965 -----	0	-----	0	0	-----	0
1966 -----	0	-----	0	0	-----	0
1967 -----	12.0	-----	12.0	.3	-----	.3
1968 -----	56.5	-----	56.5	1.6	-----	1.6
1969 -----	77.7	-----	77.7	2.2	-----	2.2
1970 -----	95.4	-----	95.4	2.7	-----	2.7
1971 -----	95.4	-----	95.4	2.7	-----	2.7

## 2B. Cumulative production:

In 1971 -----	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	Negl	-----	Negl	Negl	-----	Negl

1967-71 -----	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	336.9	-----	336.9	9.5	-----	9.5

## 3A. Proved recoverable reserves:

As of 1971 -----	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	90	-----	90	12	-----	12

## 3A. Proved recoverable reserves—Continued:

As of 1971 -----	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	4,900	-----	4,900	140	-----	140

## 3B. Potential resources (ultimate recoverable resources):

Category -----	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	-----	IV	III	-----	III

## 4A. Number of production and exploratory wells completed in 1971:

Category -----	Onshore		Offshore		Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Pro-duction	Explor-atory
	NA	NA	-----	-----	NA	NA
						>6

## 4B. Number of wells producing in 1971:

Twenty-eight.

## 5. Instances of licensing for offshore exploration for oil and gas:

Landlocked.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies		By U.S. companies		By companies of other countries		By government	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
Amount -----	0	-----	0	-----	\$93.9 million	-----	\$1.3 million	-----
Percent -----	0	-----	0	-----	98.6	-----	1.4	-----

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper -----	NA	NA	1971	NA	NA	1971
Nickel -----	NA	NA	1971	NA	NA	1971
Manganese -----	NA	NA	1971	NA	NA	1971
Cobalt -----	NA	NA	1971	NA	NA	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons		Metric tons		Year	
	Short tons	Metric tons	Short tons	Metric tons	Year	Year
Copper -----	NA	NA	NA	NA	1971	1971
Nickel -----	NA	NA	NA	NA	1971	1971
Manganese -----	NA	NA	NA	NA	1971	1971
Cobalt -----	NA	NA	NA	NA	1971	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

0-50 miles	50-200 miles	200-400 miles
-----	-----	-----

## 10. Instances of licensing for offshore exploration for hard minerals:

Landlocked.

## ALBANIA

Category: Open shelf.

Bordering water body: Mediterranean Sea.

Coastal length: 155 nautical miles.

Shelf area to 200-m depth: 1,600 sq nautical miles.

Margin: Area to 3,000-m depth, 3,600 sq nautical miles. Area to 200 nautical miles, 3,600 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, cr.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	NA	NA	1968	NA	NA	1968
Exports.....	3.3	0.5	1967	NA	NA	1968

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	5.3	0	5.3	0.8	0	0.8
1961.....	5.3	0	5.3	.8	0	.8
1962.....	5.3	0	5.3	.8	0	.8
1963.....	5.3	0	5.3	.8	0	.8
1964.....	5.3	0	5.3	.8	0	.8
1965.....	6.0	0	6.0	.9	0	.9
1966.....	6.0	0	6.0	.9	0	.9
1967.....	6.7	0	6.7	1.0	0	1.0
1968.....	7.3	0	7.3	1.1	0	1.1
1969.....	9.2	0	9.2	1.4	0	1.4
1970.....	19.8	0	19.8	1.5	0	1.5
1971.....	110.0	0	110.0	1.5	0	1.5

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	NA	0	NA	NA	0	NA
1961.....	NA	0	NA	NA	0	NA
1962.....	NA	0	NA	NA	0	NA
1963.....	NA	0	NA	NA	0	NA
1964.....	NA	0	NA	NA	0	NA
1965.....	NA	0	NA	NA	0	NA
1966.....	NA	0	NA	NA	0	NA
1967.....	NA	0	NA	NA	0	NA
1968.....	NA	0	NA	NA	0	NA
1969.....	NA	0	NA	NA	0	NA
1970.....	NA	0	NA	NA	0	NA
1971.....	NA	0	NA	NA	0	NA

<sup>1</sup> Estimated.

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1933-71 <sup>1</sup> .....	82	0	82	12	0	12

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1933-71.....	NA	0	NA	NA	0	NA

<sup>1</sup> Estimated.

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1970.....	<19	0	<19	<3	0	<3

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1970.....	8,000	0	8,000	200	0	200

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	III	IV	III	IV	IV	III

## 4A. Number of production and exploratory wells completed in 1971:

	Onshore		Offshore			Total		
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
	NA	NA	NA	NA	NA	NA	NA	NA

## 4B. Number of wells producing in 1971:

Not available.

## 5. Instances of licensing for offshore exploration for oil and gas:

No information.

## 6. Investment in oil and gas exploration and exploitation in 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
	Amount.....	NA	0	NA	NA
Percent.....	NA	0	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	NA	NA	1968	3,300	3,000	1967
Nickel.....	NA	NA	1968	NA	NA	1968
Manganese.....	NA	NA	1968	NA	NA	1968
Cobalt.....	NA	NA	1968	NA	NA	1968

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper <sup>1</sup> .....	6,000	5,400	1970
Nickel.....	NA	NA	1968
Manganese.....	NA	NA	1968
Cobalt.....	NA	NA	1968

<sup>1</sup> Estimated.

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## ALGERIA

Category: Open shelf.

Bordering water body: Mediterranean Sea.

Coastal length: 596 nautical miles.

Shelf area to 200-m depth: 4,000 sq nautical miles.

Margin: Area to 3,000-m depth, 13,600 sq nautical miles.

Area to 200 nautical miles, 40,000 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, Fe, Ti.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal of bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports -----	12.2	1.3	1970	0	0	1970
Exports -----	353.5	45.8	1970	57.0	1.6	1970

<sup>1</sup> Products

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	67.6	0	67.6	8.8	0	8.8
1961 -----	121.5	0	121.5	15.8	0	15.8
1962 -----	158.1	0	158.1	20.5	0	20.5
1963 -----	184.3	0	184.3	23.9	0	23.9
1964 -----	204.3	0	204.3	26.5	0	26.5
1965 -----	206.3	0	206.3	26.7	0	26.7
1966 -----	262.4	0	262.4	34.0	0	34.0
1967 -----	297.7	0	297.7	38.6	0	38.6
1968 -----	330.9	0	330.9	42.9	0	42.9
1969 -----	345.4	0	345.4	44.8	0	44.8
1970 -----	371.0	0	371.0	48.1	0	48.1
1971 -----	279.6	0	279.6	36.3	0	36.3

## Natural gas (gross production)

	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	1960 <sup>1</sup> -----	NA	0	NA	NA	0	NA
1961 <sup>1</sup> -----	8.6	0	8.6	0.2	0	0.2
1962 <sup>1</sup> -----	13.2	0	13.2	.4	0	.4
1963 <sup>1</sup> -----	14.9	0	14.9	.4	0	.4
1964 <sup>1</sup> -----	30.0	0	30.0	.8	0	.8
1965 <sup>1</sup> -----	65.0	0	65.0	1.8	0	1.8
1966 <sup>1</sup> -----	72.3	0	72.3	2.0	0	2.0
1967 <sup>1</sup> -----	76.2	0	76.2	2.2	0	2.2
1968 -----	340.0	0	340.0	9.6	0	9.6
1969 -----	350.0	0	350.0	9.9	0	9.9
1970 -----	340.0	0	340.0	9.6	0	9.6
1971 <sup>1</sup> -----	105.1	0	105.1	3.0	0	3.0

<sup>1</sup> Marketed natural gas.

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1944-1971 -----	2,918	0	2,918	378	0	378

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1957-1971 -----	>1,600	0	>1,600	>45	0	>45

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	12,250	0	12,250	1,590	0	1,590

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	106,500	0	106,500	3,000	0	3,000

## 3B. Potential resources (ultimate recoverable resources):

Category -----	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	II	0	II	II	0	II

## 4A. Number of production and exploratory wells completed in 1971:

Category -----	Onshore		Offshore		Total			
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
	84	25	0	0	0	84	25	109

## 4B. Number of wells producing in 1971:

497 (est) and 471 SI (est), all onshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

The State oil and gas monopoly assumed total control of the industry in 1971.

## 6. Investment in oil and gas exploration and exploitation in 1971:

Amount Percent -----	By local companies	By U.S. companies	By companies of other countries	By government
		NA	NA	NA	NA >50

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper -----	3,171	2,877	1969	557	505	1971
Nickel -----	6	5	1969	0	0	1971
Manganese -----	NA	NA	1969	0	0	1971
Cobalt -----	NA	NA	1969	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
	Copper -----	633	574	1970
Nickel -----	0	0	1971
Manganese -----	0	0	1971
Cobalt -----	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

	[NI=No information]		
	0-50 miles	500-200 miles	200-400 miles
	NI	NI	NI

## 10. Instances of licensing for offshore exploration for hand minerals:

The State mining monopoly has total control of the industry.

## ANGOLA

Category: Open shelf.

Bordering water body: Atlantic Ocean.

Coastal length: 806 nautical miles.

Shelf area to 200-m depth: 19,500 sq nautical miles.

Margin: Area to 3,000-m depth, 65,900 sq nautical miles.

Area to 200 nautical miles, 147,600 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports	12.0	10.3	1970	NA	NA	1968
Exports	32.7	4.5	1970	NA	NA	1968

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960	NA	NA	0.5	NA	NA	0.1
1961	NA	NA	.8	NA	NA	.1
1962	NA	NA	3.4	NA	NA	.5
1963	NA	NA	5.8	NA	NA	.8
1964	NA	NA	6.5	NA	NA	.9
1965	NA	NA	4.7	NA	NA	.7
1966	NA	NA	4.5	NA	NA	.6
1967	NA	NA	3.9	NA	NA	.5
1968	NA	NA	5.4	NA	NA	.7
1969	NA	NA	17.5	NA	NA	2.4
1970	NA	NA	35.6	NA	NA	4.9
1971	5.6	35.8	41.4	0.7	5.0	5.7

## Natural gas (gross production)

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960	NA	NA	NA	NA	NA	NA
1961	NA	NA	NA	NA	NA	NA
1962	NA	NA	NA	NA	NA	NA
1963	NA	NA	NA	NA	NA	NA
1964	NA	NA	NA	NA	NA	NA
1965	NA	NA	NA	NA	NA	NA
1966	NA	NA	NA	NA	NA	NA
1967	NA	NA	NA	NA	NA	NA
1968	NA	NA	1.4	NA	NA	1.0
1969	NA	NA	1.4	NA	NA	1.4
1970	NA	NA	28.7	NA	NA	.8
1971	NA	NA	38.6	NA	NA	1.1

<sup>1</sup> Estimated.

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1958-71	52	78	130	7	11	18

## Natural gas

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1958-71	NA	NA	>86	NA	NA	>2

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971	16	1,200	1,206	1	167	168

<sup>1</sup> Estimated.

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971	NA	NA	1,500	NA	NA	40

## 3B. Potential resources (ultimate recoverable resources):

Category	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	IV	IV	III	III	III
As of 1971	NA	NA	1,500	NA	NA	40

## 4A. Number of production and exploratory wells completed in 1971:

Category	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
1971	19	15	7	14	0	26	29

## 4B. Number of wells producing in 1971:

145 (est) and 37 SI (est).

## 5. Instances of licensing for offshore exploration for oil and gas:

Twelve concessions to four consortia and one company, all within 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1970:

Amount Percent	By local companies	By U.S. companies	By companies of other countries	By government
	NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper	705	640	1969	4	4	1969
Nickel	NA	NA	1969	NA	NA	1969
Manganese	NA	NA	1969	30,300	27,477	1969
Cobalt	NA	NA	1969	NA	NA	1969

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper	220	200	1969
Nickel	0	0	1969
Manganese	32,044	29,070	1969
Cobalt	0	0	1969

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI=No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## ARGENTINA

Category: Open shelf.

Bordering water body: Atlantic Ocean.

Coastal length: 2,120 nautical miles.

Shelf area to 200-m depth: 232,200 sq nautical miles.

Margin: Area to 3,000-m depth, 484,100 sq nautical miles.

Area to 200 nautical miles, 339,500 sq nautical miles.

Geology: Coastal onshore, sedimentary/crystalline. Offshore, sedimentary/crystalline.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, Au, Fe, m, Ti, z.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports -----	19.7	2.7	1971	0	0	1971
Exports -----	0	0	1971	0	0	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	63.9	0	63.9	9.1	0	9.1
1961 -----	84.5	0	84.5	12.1	0	12.1
1962 -----	98.2	0	98.2	14.0	0	14.0
1963 -----	97.1	0	97.1	13.9	0	13.9
1964 -----	100.3	0	100.3	14.3	0	14.3
1965 -----	98.2	0	98.2	14.1	0	14.1
1966 -----	104.8	0	104.8	15.0	0	15.0
1967 -----	114.7	0	114.7	16.4	0	16.4
1968 -----	125.5	0	125.5	17.9	0	17.9
1969 -----	130.0	0	130.0	18.6	0	18.6
1970 -----	141.6	0	141.6	20.3	0	20.3
1971 -----	151.9	0	151.9	21.7	0	21.7

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	123.6	0	123.6	3.5	0	3.5
1961 -----	173.0	0	173.0	4.9	0	4.9
1962 -----	219.0	0	219.0	6.2	0	6.2
1963 -----	211.9	0	211.9	6.0	0	6.0
1964 -----	233.1	0	233.1	6.6	0	6.6
1965 -----	219.0	0	219.0	6.2	0	6.2
1966 -----	211.9	0	211.9	6.0	0	6.0
1967 -----	229.5	0	229.5	6.5	0	6.5
1968 -----	250.7	0	250.7	7.1	0	7.1
1969 -----	247.2	0	247.2	7.0	0	7.0
1970 -----	271.9	0	271.9	7.7	0	7.7
1971 -----	286.0	0	286.0	8.1	0	8.1

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1908-71 -----	2,033	0	2,033	291	0	291

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960-71 -----	2,677	0	2,677	76	0	76

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	<2,500	NA	2,500	<358	NA	358

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	<7,600	NA	7,600	<215	NA	215

## 3B. Potential resources (ultimate recoverable resources):

Category -----	Oil			Natural Gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	III	III	III	III	III	III

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore		Total	
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Pro-duction	Explor-atory
459	<136	0	>9	459	145
					All wells 604

## 4B. Number of wells producing in 1971:

5,700 (est) and 905 SI (est), all onshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

Eight concessions granted to seven joint ventures and two concessions granted to the government-owned company. None beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation in 1971:

Amount Percent -----	By local companies	By U.S. companies	By companies of other countries	By government
		( <sup>1</sup> ) NA	( <sup>1</sup> ) NA	NA NA	NA NA

<sup>1</sup> \$71 million by U.S. and local companies.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper -----	38,355	34,795	1971	<sup>1</sup> 132	<sup>1</sup> 120	1971
Nickel -----	631	573	1969	0	0	1971
Manganese -----	24,570	22,284	1971	0	0	1971
Cobalt -----	93	84	1971	0	0	1971

<sup>1</sup> Estimated.

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper -----	519	471	1970
Nickel -----	0	0	1970
Manganese -----	34,847	31,613	1970
Cobalt -----	0	0	1970

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[S= Sparse; NI= No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	S

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## AUSTRALIA

Category: Open shelf.

Bordering water bodies: Pacific Ocean, Indian Ocean.

Coastal length: 15,091 nautical miles.

Shelf area to 200-m depth: 661,600 sq nautical miles.

Margin: Area to 3,000-m depth, 1,445,400 sq nautical miles.

Area to 200 nautical miles, 2,043,300 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, Ti, m, z. Known, Fe, Sn, c.

Onshore source deposits, Au, Fe, Pt, cr, d, m.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	74.0	10.1	1971	0	0	1971
Exports.....	4.3	.6	1971	0	0	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	Negl	0	Negl	Negl	0	Negl
1961.....	Negl	0	Negl	Negl	0	Negl
1962.....	Negl	0	Negl	Negl	0	Negl
1963.....	Negl	0	Negl	Negl	0	Negl
1964.....	1.5	0	1.5	0.2	0	0.2
1965.....	2.6	0	2.6	.3	0	.3
1966.....	3.4	0	3.4	.4	0	.4
1967.....	7.6	0	7.6	1.0	0	1.0
1968.....	13.9	0	13.9	1.8	0	1.8
1969.....	15.3	.5	15.8	2.0	.1	2.1
1970.....	18.1	47.0	65.1	2.4	6.1	8.5
1971.....	17.2	95.7	112.9	2.3	12.5	14.8

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	Negl	0	Negl	Negl	0	Negl
1961.....	Negl	0	Negl	Negl	0	Negl
1962.....	Negl	0	Negl	Negl	0	Negl
1963.....	Negl	0	Negl	Negl	0	Negl
1964.....	Negl	0	Negl	Negl	0	Negl
1965.....	Negl	0	Negl	Negl	0	Negl
1966.....	Negl	0	Negl	Negl	0	Negl
1967.....	0.2	0	0.2	Negl	0	Negl
1968.....	0.2	0	0.2	Negl	0	Negl
1969.....	4.9	4.5	9.4	0.2	.1	0.3
1970.....	31.0	22.1	53.1	.9	.6	1.5
1971.....	43.2	35.8	79.0	1.2	1.0	2.2

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1964-71.....	79.6	143.2	222.8	10.5	18.7	29.2

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1965-71.....	79.5	62.4	141.9	2.3	1.7	4.0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	227	2,669	2,896	30	349	379

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	15,500	19,300	24,800	440	1,260	700

<sup>1</sup> New offshore discovery unofficially reports reserves of 45 trillion cubic feet (1.3 trillion cubic meters).

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	III	III	III	II	II	II

## 4A. Number of production and exploratory wells completed in 1971:

	Onshore		Offshore			Total		
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200	Explor-atory, >200	Pro-duction	Explor-atory	All wells
	13	45	18	19	1	31	65	96

## 4B. Number of wells producing in 1971:

27 onshore and 375 offshore; four SI onshore and 28 SI offshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

Petroleum leases, exploration permits, and other petroleum titles: 171, of which 74 span the 200-m depth and two are wholly beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation in 1970:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	\$79 million	\$62 million	\$6 million	0
Percent.....	54	42	4	0

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	13,570	13,240	1969	54,235	49,201	1971
Nickel.....	1,697	1,539	1971	NA	NA	1971
Manganese.....	7,300	6,620	1970	874,716	793,530	1971
Cobalt.....	55	50	1971	0	0	1971

<sup>1</sup> Includes scrap.

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	167,450	151,956	1970
Nickel.....	35,866	32,537	1971
Manganese.....	828,150	751,500	1970
Cobalt.....	517	469	1970

<sup>1</sup> Estimated.

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

	[M = Moderate; S = Sparse; NI = No information]		
	0-50 miles	50-200 miles	200-400 miles
	NI	S	M

## 10. Instances of licensing for offshore exploration for hard minerals:

No offshore exploration except for one company with authority (lease not recognized by the Commonwealth) to explore for mineral sands close inshore.

## AUSTRIA

Category: Landlocked.  
 Bordering water body: None.  
 Coastal length: None.  
 Shelf area to 200-m depth: None.  
 Margin: None.  
 Geology: Sedimentary/crystalline.  
 Coastal and offshore placers: None.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	32.9	4.5	1971	45.9	1.3	1971
Exports.....	1.4	.2	1970	0	0	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	16.7	----	16.7	2.4	----	2.4
1961.....	16.7	----	16.7	2.4	----	2.4
1962.....	16.7	----	16.7	2.4	----	2.4
1963.....	18.1	----	18.1	2.6	----	2.6
1964.....	18.8	----	18.8	2.7	----	2.7
1965.....	20.2	----	20.2	2.9	----	2.9
1966.....	18.1	----	18.1	2.6	----	2.6
1967.....	18.8	----	18.8	2.7	----	2.7
1968.....	18.8	----	18.8	2.7	----	2.7
1969.....	19.5	----	19.5	2.8	----	2.8
1970.....	19.5	----	19.5	2.8	----	2.8
1971.....	17.4	----	17.4	2.5	----	2.5

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	53.0	----	53.0	1.5	----	1.5
1961.....	56.5	----	56.5	1.6	----	1.6
1962.....	56.5	----	56.5	1.6	----	1.6
1963.....	60.0	----	60.0	1.7	----	1.7
1964.....	63.6	----	63.6	1.8	----	1.8
1965.....	60.0	----	60.0	1.7	----	1.7
1966.....	67.1	----	67.1	1.9	----	1.9
1967.....	63.6	----	63.6	1.8	----	1.8
1968.....	56.5	----	56.5	1.6	----	1.6
1969.....	53.0	----	53.0	1.5	----	1.5
1970.....	67.1	----	67.1	1.9	----	1.9
1971.....	67.1	----	67.1	1.9	----	1.9

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1933-71.....	485	---	485	70	---	70

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1930-71.....	1,034	---	1,034	29	---	29

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1970.....	185	---	185	27	---	27

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1970.....	550	---	550	16	---	16

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	---	IV	IV	---	IV

## 4A. Number of production and exploratory wells completed in 1971:

	Onshore		Offshore		Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Pro-duction	Explor-atory
	28	25	---	---	28	25
All wells	53					

## 4B. Number of wells producing in 1971:

1,298 (est) and 438 SI (est).

## 5. Instances of licensing for offshore exploration for oil and gas:

Landlocked.

## 6. Investment in oil and gas exploration and exploitation in 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	\$12.8-17.0 million	0	0	0
Percent.....	100	0	0	0

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
	Copper.....	49,727	45,112	1971	7,726	7,009	1971
Nickel.....	2,361	2,142	1971	272	247	1971
Manganese.....	1,155	1,048	1969	387	351	1969
Cobalt.....	NA	NA	1971	NA	NA	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	2,926	2,654	1971
Nickel.....	0	0	1971
Manganese <sup>1</sup> .....	92,000	83,000	1971
Cobalt.....	0	0	1971

<sup>1</sup> Contained in iron ore mined to the extent of 2 percent, but not specified that Mn was produced or separated. Tonnage is estimated.

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

	0-50 miles	50-200 miles	200-400 miles
	-----	-----	-----

## 10. Instances of licensing for offshore exploration for hard minerals:

Landlocked.

## BAHAMAS (UNITED KINGDOM)

Category: Archipelago.

Bordering water body: Atlantic Ocean.

Coastal length: 1,500 nautical miles (est).

Shelf area to 200-m depth: 25,000 sq nautical miles (est).

Margin: Area to 3,000-m depth, 75,000 sq nautical miles (est).

Area to 200 nautical miles, 221,400 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, lm. Known, none. Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	14.8	2.0	1970	Negl	Negl	1970
Exports.....	0	0	1970	0	0	1970

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971.....	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	VI	VI	VI	VI	IV	IV

## 4A. Number of production and exploratory wells completed in 1971:

	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
	0	0	0	1	0	0	1

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Concessions granted to six American companies and one Canadian company within 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	( <sup>1</sup> ) NA	( <sup>1</sup> ) NA	( <sup>1</sup> ) NA	( <sup>1</sup> ) NA
Percent.....	( <sup>1</sup> ) NA	( <sup>1</sup> ) NA	( <sup>1</sup> ) NA	( <sup>1</sup> ) NA

<sup>1</sup> \$40-50 million estimated; no breakdown available.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	82	74	1970	12	11	1970
Nickel.....	400	360	1970	0	0	1970
Manganese.....	0	0	1970	0	0	1970
Cobalt.....	0	0	1970	0	0	1970

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[M = Moderate; NI = No information]

	0-50 miles	50-200 miles	200-400 miles
	NI	M	M

## 10. Instances of licensing for offshore exploration for hard minerals:

One American company has negotiated with the Bahamas Government to mine aragonite resources estimated to be between 45 and 90 billion short tons.



## BANGLADESH

Category: Open shelf.

Bordering water body: Indian Ocean.

Coastal length: 310 nautical miles.

Shelf area to 200-m depth: 16,000 sq nautical miles.

Margin: Area to 3,000-m depth, 20,800 sq nautical miles. Area to 200 nautical miles, 22,400 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, Ti, m. Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	NA	NA	1971	NA	NA	1971
Exports.....	NA	NA	1971	NA	NA	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	NA	0	NA	NA	0	NA
1961.....	NA	0	NA	NA	0	NA
1962.....	NA	0	NA	NA	0	NA
1963.....	NA	0	NA	NA	0	NA
1964.....	NA	0	NA	NA	0	NA
1965.....	NA	0	NA	NA	0	NA
1966.....	NA	0	NA	NA	0	NA
1967.....	NA	0	NA	NA	0	NA
1968.....	NA	0	NA	NA	0	NA
1969.....	10.8	0	10.8	0.3	0	0.3
1970.....	20.4	0	20.4	.6	0	.6
1971.....	20.4	0	20.4	.6	0	.6

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971.....	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960-71.....	>51.6	0	>51.6	>1.5	0	>1.5

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	NA	NA	NA	NA	NA	NA

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	9,000	0	9,000	250	0	250

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	IV	IV	III	III	III

4A. Number of production and exploratory wells completed in 1971:<sup>1</sup>

Category.....	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
	NA	NA	NA	NA	NA	NA	NA

<sup>1</sup> Four onshore exploratory wells and more than three onshore development wells were completed in 1970.

## 4B. Number of wells producing in 1971:

Not available.

## 5. Instances of licensing for offshore exploration for oil and gas:

Concession(s) granted within 200-m depth.

## 6. Investment in oil and gas exploration and exploitation in 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	NA	NA	NA	NA
Percent.....	NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	NA	NA	1971	0	0	1971
Nickel.....	NA	NA	1971	0	0	1971
Manganese.....	NA	NA	1971	0	0	1971
Cobalt.....	NA	NA	1971	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## BARBADOS

Category: Open shelf.

Bordering water body: Atlantic Ocean.

Coastal length: 55 nautical miles.

Shelf area to 200-m depth: 100 sq nautical miles.

Margin: Area to 3,000-m depth, 2,300 sq nautical miles. Area to 200 nautical miles, 48,800 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	2.6	0.4	1970	Negl	Negl	1970
Exports.....	1.1	.2	1970	Negl	Negl	1970

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	Negl	0	Negl	Negl	0	Negl
1967.....	Negl	0	Negl	Negl	0	Negl
1968.....	SI	0	SI	SI	0	SI
1969.....	SI	0	SI	SI	0	SI
1970.....	SI	0	SI	SI	0	SI
1971.....	SI	0	SI	SI	0	SI

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	.1	0	.1	Negl	0	Negl
1969.....	.1	0	.1	Negl	0	Negl
1970.....	.1	0	.1	Negl	0	Negl
1971.....	.1	0	.1	Negl	0	Negl

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1966-71.....	Negl	0	Negl	Negl	0	Negl

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1968-71.....	0.4	0	0.4	Negl	0	Negl

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0.8	0	0.8	0.1	0	0.1

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	NA	0	NA	NA	0	NA

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	V	V	IV	V	V	IV

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
0	2	0	0	0	0	2	2

## 4B. Number of wells producing in 1971:

One and six SI (est), all onshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

One U.S. company has exploratory rights extending beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation in 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	0	NA	0	0
Percent.....	0	100	0	0

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	NA	NA	1967	NA	NA	1967
Nickel.....	NA	NA	1967	NA	NA	1967
Manganese.....	NA	NA	1967	NA	NA	1967
Cobalt.....	NA	NA	1967	NA	NA	1967

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[S = Sparse; NI = No information]

	0-50 miles	50-200 miles	200-400 miles
	NI	S	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## BELGIUM

Category: Shelf locked.

Bordering water body: North Sea.

Coastal length: 34 nautical miles.

Shelf area to 200-m depth: 800 sq nautical miles.

Margin: Area to 3,000-m depth, 800 sq nautical miles. Area to 200 nautical miles, 800 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports -----	268	37	1970	159	5	1970
Exports -----	69	10	1970	0	0	1970

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	0	0	0	0	0

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	0	0	0	0	0

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category -----	Oil			Natural Gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	V	IV	IV	V	IV	IV

## 4A. Number of production and exploratory wells completed through 1971:

	Onshore		Offshore		Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory	Pro-duction	Explor-atory
	0	0	0	0	0	0

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

None.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
	Amount -----	0	0	0	0
Percent -----	0	0	0	0

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
	Copper -----	427,000	387,000	1970	325,000	295,000	1970
Nickel -----	6,140	5,570	1969	2,690	2,440	1969
Manganese -----	400,000	363,100	1969	12,500	11,350	1969
Cobalt -----	NA	NA	1969	1,696	1,539	1969

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper -----	0	0	1971
Nickel -----	0	0	1971
Manganese -----	0	0	1971
Cobalt -----	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI=No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## BOLIVIA

Category: Landlocked.  
 Bordering water body: None.  
 Coastal length: None.  
 Shelf area to 200-m depth: None.  
 Margin: None.  
 Geology: Sedimentary/crystalline.  
 Coastal and offshore placers: None.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports -----	<sup>1</sup> 0.2	<sup>1</sup> Negl	1971	0	0	1971
Exports -----	8.4	1.0	1971	0	0	1971

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	3.6	-----	3.6	0.4	-----	0.4
1961 -----	3.0	-----	3.0	.4	-----	.4
1962 -----	2.9	-----	2.9	.4	-----	.4
1963 -----	3.4	-----	3.4	.4	-----	.4
1964 -----	3.3	-----	3.3	.4	-----	.4
1965 -----	3.4	-----	3.4	.4	-----	.4
1966 -----	5.9	-----	5.9	.7	-----	.7
1967 -----	14.6	-----	14.6	1.8	-----	1.8
1968 -----	15.0	-----	15.0	1.9	-----	1.9
1969 -----	14.8	-----	14.8	1.8	-----	1.8
1970 -----	8.8	-----	8.8	1.1	-----	1.1
1971 -----	13.4	-----	13.4	1.7	-----	1.7

## Natural gas (gross production)

	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	1960 -----	0	-----	0	0	-----	0
1961 -----	0	-----	0	0	-----	0
1962 -----	0	-----	0	0	-----	0
1963 -----	0	-----	0	0	-----	0
1964 -----	0	-----	0	0	-----	0
1965 -----	0	-----	0	0	-----	0
1966 -----	0	-----	0	0	-----	0
1967 -----	0	-----	0	0	-----	0
1968 -----	32.7	-----	32.7	.9	-----	.9
1969 -----	28.4	-----	28.4	.8	-----	.8
1970 -----	29.0	-----	29.0	.8	-----	.8
1971 -----	82.5	-----	82.5	2.3	-----	2.3

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1930-71 -----	128	-----	128	16	-----	16

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1968-71 -----	172.6	-----	172.6	4.9	-----	4.9

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	217	-----	217	25	-----	25

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	5,000	-----	5,000	140	-----	140

## 3B. Potential resources (ultimate recoverable resources):

Category	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	III	-----	III	II	-----	II

## 4A. Number of production and exploratory wells completed in 1971:

	Onshore		Offshore		Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Pro-duction	Explor-atory
1971 -----	14	4	-----	-----	14	4
All wells -----					18	

## 4B. Number of wells producing in 1971:

209 (est) and 28 SI (est).

## 5. Instances of licensing for offshore exploration for oil and gas:

Landlocked.

## 6. Investment in oil and gas exploration and exploitation in 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
	Amount -----	0	0	0	$28.2 million
Percent -----	0	0	0	100

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
	Copper -----	454	412	1967	9,070	8,227	1971
Nickel -----	NA	NA	1971	NA	NA	1971
Manganese -----	NA	NA	1971	NA	NA	1971
Cobalt -----	NA	NA	1971	NA	NA	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
	Copper -----	8,534	7,742	1971
Nickel -----	0	0	1971
Manganese -----	236	214	1971
Cobalt -----	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

	0-50 miles	50-200 miles	200-400 miles
-----	-----	-----	-----

## 10. Instances of licensing for offshore exploration for hard minerals:

Landlocked.

## BOTSWANA

Category: Landlocked.  
 Bordering water body: None.  
 Coastal length: None.  
 Shelf area to 200-m depth: None.  
 Margin: None.  
 Geology: Sedimentary/crystalline.  
 Coastal and offshore placers: None.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports -----	Negl	Negl	1968	NA	NA	1968
Exports -----	NA	NA	1968	NA	NA	1968

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	-----	0	0	-----	0
1961 -----	0	-----	0	0	-----	0
1962 -----	0	-----	0	0	-----	0
1963 -----	0	-----	0	0	-----	0
1964 -----	0	-----	0	0	-----	0
1965 -----	0	-----	0	0	-----	0
1966 -----	0	-----	0	0	-----	0
1967 -----	0	-----	0	0	-----	0
1968 -----	0	-----	0	0	-----	0
1969 -----	0	-----	0	0	-----	0
1970 -----	0	-----	0	0	-----	0
1971 -----	0	-----	0	0	-----	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	-----	0	0	-----	0
1961 -----	0	-----	0	0	-----	0
1962 -----	0	-----	0	0	-----	0
1963 -----	0	-----	0	0	-----	0
1964 -----	0	-----	0	0	-----	0
1965 -----	0	-----	0	0	-----	0
1966 -----	0	-----	0	0	-----	0
1967 -----	0	-----	0	0	-----	0
1968 -----	0	-----	0	0	-----	0
1969 -----	0	-----	0	0	-----	0
1970 -----	0	-----	0	0	-----	0
1971 -----	0	-----	0	0	-----	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	-----	0	0	-----	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	-----	0	0	-----	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	-----	0	0	-----	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	-----	0	0	-----	0

## 3B. Potential resources (ultimate recoverable resources):

Category	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	VI	-----	VI	III	-----	III

## 4A. Number of production and exploration wells completed through 1971:

	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
	0	0	-----	-----	-----	0	0

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Landlocked.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies		By U.S. companies		By companies of other countries		By government	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
Amount -----	0	-----	0	-----	0	-----	0	-----
Percent -----	0	-----	0	-----	0	-----	0	-----

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
	Copper -----	NA	NA	1968	NA	NA	1968
Nickel -----	NA	NA	1968	NA	NA	1968
Manganese -----	NA	NA	1968	11,018	9,998	1969
Cobalt -----	NA	NA	1968	NA	NA	1968

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons		Metric tons		Year	
	Amount	Percent	Amount	Percent	Year	Year
Copper <sup>1</sup> -----	0	-----	0	-----	1971	1971
Nickel <sup>1</sup> -----	0	-----	0	-----	1971	1971
Manganese -----	39,235	-----	35,603	-----	1971	1971
Cobalt -----	0	-----	0	-----	1971	1971

<sup>1</sup> Botswana plans to begin producing copper and nickel ore in 1974.

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

0-50 miles	50-200 miles	200-400 miles
-----	-----	-----

## 10. Instances of licensing for offshore exploration for hard minerals:

Landlocked.

## BRAZIL

Category: Open shelf.

Bordering water body: Atlantic Ocean.

Coastal length: 3,692 nautical miles.

Shelf area to 200-m depth: 224,100 sq nautical miles.

Margin: Area to 3,000-m depth, 435,700 sq nautical miles.

Area to 200 nautical miles, 924,000 sq nautical miles.

Geology: Coastal onshore, sedimentary/crystalline. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, m, Ti, z. Onshore source deposits, cr, d, Fe, m, Ti, z.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports -----	437	60	1970	0	0	1970
Exports -----	7	1	1970	0	0	1970

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	29.6	0	29.6	4.0	0	4.0
1961 -----	34.8	0	34.8	4.8	0	4.8
1962 -----	33.4	0	33.4	4.6	0	4.6
1963 -----	35.7	0	35.7	4.9	0	4.9
1964 -----	33.3	0	33.3	4.6	0	4.6
1965 -----	34.3	0	34.3	4.7	0	4.7
1966 -----	42.4	0	42.4	5.8	0	5.8
1967 -----	54.6	0	54.6	7.5	0	7.5
1968 -----	58.8	0	58.8	8.0	0	8.0
1969 -----	63.0	0	63.0	8.6	0	8.6
1970 -----	59.8	.2	60.0	8.2	Negl	8.2
1971 -----	61.7	1.9	63.6	8.4	.3	8.7

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	20.0	0	20.0	0.6	0	0.6
1961 -----	19.7	0	19.7	.6	0	.6
1962 -----	19.1	0	19.1	.5	0	.5
1963 -----	20.1	0	20.1	.6	0	.6
1964 -----	18.8	0	18.8	.5	0	.5
1965 -----	24.1	0	24.1	.7	0	.7
1966 -----	27.8	0	27.8	.8	0	.8
1967 -----	30.9	0	30.9	.9	0	.9
1968 -----	34.7	0	34.7	1.0	0	1.0
1969 -----	45.3	0	45.3	1.3	0	1.3
1970 -----	45.9	0	45.9	1.3	0	1.3
1971 -----	42.4	Negl	42.4	1.2	Negl	1.2

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1940-71 -----	603	2	605	82.4	0.3	82.7

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1940-71 -----	341	Negl	341	10	Negl	10

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	<1,000	NA	1,000	<137	NA	137

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	<5,000	NA	5,000	<140	NA	140

## 3B. Potential resources (ultimate recoverable resources):

Category -----	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	IV	IV	II	III	II

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
80	59	28	8	0	88	87	175

## 4B. Number of wells producing in 1971:

1,150 (est) onshore and seven (est) offshore; 540 SI (est) onshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

No licensing but one contract for geophysical work by Brazilian Government and one contract between Brazilian Government and a private U.S. scientific institute for survey of continental shelf.

## 6. Investment in oil and gas exploration and exploitation in 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
	Amount -----	0	0	0	NA
Percent -----	0	0	0	100

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper -----	58,954	53,482	1970	1,060	961	1970
Nickel -----	1,110	1,007	1969	108	98	1969
Manganese -----	0	0	1970	1,751,000	1,588,000	1970
Cobalt -----	177	161	1969	0	0	1969

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper -----	5,290	4,799	1971
Nickel -----	2,762	2,505	1970
Manganese -----	1,210,000	1,905,000	1971
Cobalt -----	0	0	1970

<sup>1</sup> Estimated.

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

	[S= Sparse; NI= No information]		
	0-50 miles	50-200 miles	200-400 miles
	NI	S	S

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## BULGARIA

Category: Open shelf.

Bordering water body: Black Sea.

Coastal length: 134 nautical miles.

Shelf area to 200-m depth: 3,600 sq nautical miles.

Margin: Area to 3,000-m depth, 9,600 sq nautical miles. Area to 200 nautical miles, 9,600 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	60.3	8.3	1970	NA	NA	1970
Exports.....	2.1	.3	1970	NA	NA	1970

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	1.5	0	1.5	0.2	0	0.2
1961.....	1.5	0	1.5	.2	0	.2
1962.....	1.5	0	1.5	.2	0	.2
1963.....	1.3	0	1.3	.2	0	.2
1964.....	1.2	0	1.2	.2	0	.2
1965.....	1.7	0	1.7	.2	0	.2
1966.....	2.9	0	2.9	.4	0	.4
1967.....	3.6	0	3.6	.5	0	.5
1968.....	3.5	0	3.5	.5	0	.5
1969.....	2.4	0	2.4	.3	0	.3
1970.....	2.4	0	2.4	.3	0	.3
1971.....	2.2	0	2.2	.3	0	.3

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	NA	0	NA	NA	0	NA
1961.....	NA	0	NA	NA	0	NA
1962.....	NA	0	NA	NA	0	NA
1963.....	NA	0	NA	NA	0	NA
1964.....	NA	0	NA	NA	0	NA
1965.....	2.6	0	2.6	.1	0	.1
1966.....	3.8	0	3.8	.1	0	.1
1967.....	4.0	0	4.0	.1	0	.1
1968.....	17.9	0	17.9	.5	0	.5
1969.....	18.5	0	18.5	.5	0	.5
1970.....	16.7	0	16.7	.5	0	.5
1971.....	15.3	0	15.3	1.4	0	1.4

<sup>1</sup> Estimated.

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1955-71.....	>64	0	>64	>9	0	>9

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1965-70.....	79	0	79	2	0	2

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1970.....	278	0	278	38	0	38

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1970.....	1,000	0	1,000	30	0	30

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	IV	IV	IV	IV	IV

4A. Number of production and exploratory wells completed in 1971:<sup>1</sup>

	Onshore		Offshore		Total			
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
	NA	NA	NA	NA	NA	NA	NA	NA

<sup>1</sup> Ten (est) production wells and two (est) exploratory wells completed in 1969.

## 4B. Number of wells producing in 1971:

Not available.

## 5. Instances of licensing for offshore exploration for oil and gas:

No information.

## 6. Investment in oil and gas exploration and exploitation through 1970:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	NA	0	NA	NA
Percent.....	NA	0	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	5,607	5,087	1970	6,918	6,276	1970
Nickel.....	137	124	1970	8	7	1970
Manganese.....	88,284	80,090	1970	NA	NA	1970
Cobalt.....	NA	NA	1970	NA	NA	1970

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	48,940	44,398	1971
Nickel.....	0	0	1971
Manganese <sup>1</sup> .....	33,000	30,000	1971
Cobalt.....	0	0	1971

<sup>1</sup> Estimated.

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI=No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## BURMA

Category: Open shelf.

Bordering water body: Indian Ocean.

Coastal length: 1,230 nautical miles.

Shelf area to 200-m depth: 66,900 sq nautical miles.

Margin: Area to 3,000-m depth, 111,300 sq nautical miles. Area to 200 nautical miles, 148,600 sq nautical miles.

Geology: Coastal onshore, sedimentary/crystalline. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, Ti, m. Onshore source deposits, Sn, W.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	2.3	0.3	1971	0	0	1971
Exports.....	Negl	Negl	1971	0	0	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	4.1	0	4.1	0.5	0	0.5
1961.....	4.2	0	4.2	.6	0	.6
1962.....	4.4	0	4.4	.6	0	.6
1963.....	4.8	0	4.8	.6	0	.6
1964.....	4.2	0	4.2	.6	0	.6
1965.....	4.1	0	4.1	.5	0	.5
1966.....	4.3	0	4.3	.6	0	.6
1967.....	4.4	0	4.4	.6	0	.6
1968.....	5.9	0	5.9	.8	0	.8
1969.....	6.4	0	6.4	.9	0	.9
1970.....	6.1	0	6.1	.8	0	.8
1971.....	6.7	0	6.7	.9	0	.9

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	NA	0	NA	NA	0	NA
1961.....	NA	0	NA	NA	0	NA
1962.....	NA	0	NA	NA	0	NA
1963.....	NA	0	NA	NA	0	NA
1964.....	NA	0	NA	NA	0	NA
1965.....	NA	0	NA	NA	0	NA
1966.....	NA	0	NA	NA	0	NA
1967.....	NA	0	NA	NA	0	NA
1968.....	0.4	0	0.4	Negl	0	Negl
1969.....	2.9	0	2.9	0.1	0	0.1
1970.....	3.4	0	3.4	.1	0	.1
1971.....	4.2	0	4.2	.1	0	.1

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1889-1971.....	414	0	414	55	0	55

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1889-1971.....	364	0	364	10	0	10

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	6	0	6	1	0	1

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	100	0	100	3	0	3

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	III	IV	III	III	III	III

4A. Number of production and exploratory wells completed in 1971:<sup>1</sup>

	Onshore		Offshore			Total		
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
	NA	NA	NA	NA	NA	NA	NA	NA

<sup>1</sup> Eight onshore and five offshore exploratory wells planned for 1972.

## 4B. Number of wells producing in 1971:

52 (est), all onshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

None. One U.S. company under contract to government to drill five exploratory wells.

## 6. Investment in oil and gas exploration and exploitation in 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	0	0	0	NA
Percent.....	0	0	0	100

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	0	0	1971	0	0	1971
Nickel.....	0	0	1971	0	0	1971
Manganese.....	Negl	Negl	1971	0	0	1971
Cobalt.....	0	0	1971	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	193	175	1971
Nickel.....	104	94	1971
Manganese.....	123	112	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## CAMEROON

Category: Open shelf.

Bordering water body: Atlantic Ocean.

Coastal length: 187 nautical miles.

Shelf area to 200-m depth: 3,100 sq nautical miles.

Margin: Area to 3,000-m depth, 4,500 sq nautical miles. Area to 200 nautical miles, 4,500 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	12.2	10.3	1971	NA	NA	1971
Exports.....	0	0	1971	NA	NA	1971

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971.....	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	14	0	14	0.4	0	0.4

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	V	V	IV	IV	IV	IV

## 4A. Number of production and exploratory wells completed in 1971:

Category.....	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
	0	1	0	1	0	0	2

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Nine concessions granted to six consortia and two companies, all within 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1969:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
Percent.....	NA	NA	NA	NA

<sup>1</sup> \$0.048 million; no breakdown available.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	Negl	Negl	1971	0	0	1971
Nickel.....	Negl	Negl	1971	0	0	1971
Manganese.....	Negl	Negl	1971	0	0	1971
Cobalt.....	Negl	Negl	1971	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## CANADA

Category: Open shelf.

Bordering water bodies: Arctic Ocean, Atlantic Ocean, Pacific Ocean.

Coastal length: 11,129 nautical miles.

Shelf area to 200-m depth: 846,500 sq nautical miles.

Margin: Area to 3,000-m depth, 1,240,000 sq nautical miles.

Area to 200 nautical miles, 1,370,000 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, Au, Cu, Fe,

Ni, Ti, c. Onshore source deposits, Au, Fe, Ti, Cr, m, z.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	299.0	41.0	1971	16.0	0.5	1971
Exports.....	307.5	41.4	1971	903.1	25.6	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	189.5	0	189.5	25.5	0	25.5
1961.....	220.8	0	220.8	29.7	0	29.7
1962.....	244.1	0	244.1	32.9	0	32.9
1963.....	257.7	0	257.7	34.7	0	34.7
1964.....	274.6	0	274.6	37.0	0	37.0
1965.....	296.4	0	296.4	39.9	0	39.9
1966.....	320.5	0	320.5	43.1	0	43.1
1967.....	351.3	0	351.3	47.3	0	47.3
1968.....	379.4	0	379.4	51.1	0	51.1
1969.....	411.0	0	411.0	55.3	0	55.3
1970.....	461.2	0	461.2	62.1	0	62.1
1971.....	492.6	SI	492.6	66.3	SI	66.3

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	523.0	0	523.0	14.8	0	14.8
1961.....	634.1	0	634.1	18.0	0	18.0
1962.....	894.7	0	894.7	25.3	0	25.3
1963.....	993.4	0	993.4	28.1	0	28.1
1964.....	1,134.2	0	1,134.2	32.1	0	32.1
1965.....	1,236.8	0	1,236.8	35.0	0	35.0
1966.....	1,341.8	0	1,341.8	38.0	0	38.0
1967.....	1,471.7	0	1,471.7	41.7	0	41.7
1968.....	1,696.7	0	1,696.7	48.0	0	48.0
1969.....	1,977.8	0	1,977.8	56.0	0	56.0
1970.....	2,277.1	0	2,277.1	64.5	0	64.5
1971.....	2,500.8	SI	2,500.8	70.8	SI	70.8

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1862-1971.....	5,200	SI	5,200	700	SI	700

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1862-1971.....	35,911	SI	35,911	1,017	SI	1,017

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	10,163	NA	>10,163	1,368	NA	>1,368

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	55,462	NA	>55,462	1,570	NA	>1,570

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	III	III	III	II	III	II

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
1,544	1,534	0	19	0	1,544	1,553	3,097

## 4B. Number of wells producing in 1971:

22,528 onshore; 9,738 SI onshore and one SI offshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

As of January 1, 1972, many oil and gas exploration permits granted to 123 permittees and 32 joint permittees, some extending beyond 200 m.

## 6. Investment in oil and gas exploration and exploitation in 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	(1) NA	(1) NA	(1) NA	(1) NA
Percent.....	(1) NA	(1) NA	(1) NA	(1) NA

<sup>1</sup> \$1,668 million (including approximately \$80 million spent on offshore exploration and exploitation); no breakdown available.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	12,847	11,655	1971	448,892	407,228	1971
Nickel.....	38,354	34,794	1971	284,694	258,270	1971
Manganese.....	<sup>1</sup> 134,233	<sup>1</sup> 121,774	1971	<sup>2</sup> 381	<sup>2</sup> 346	1971
Cobalt.....	0	0	1971	<sup>3</sup> 1,608	<sup>3</sup> 1,459	1971

<sup>1</sup> Manganese in ores and concentrates; ferromanganese and silicomanganese.

<sup>2</sup> Ferromanganese. <sup>3</sup> As metal oxides and salts.

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	714,507	648,191	1971
Nickel.....	293,947	266,665	1971
Manganese.....	0	0	1971
Cobalt.....	2,496	2,264	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[S = Sparse; NI = No information]		
0-50 miles	50-200 miles	200-400 miles
S	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

A few licenses have been issued.

## CHILE

Category: Open shelf.

Bordering water body: Pacific Ocean.

Coastal length: 2,882 nautical miles.

Shelf area to 200-m depth: 8,000 sq nautical miles.

Margin: Area to 3,000-m depth, 167,900 sq nautical miles. Area to 200 nautical miles, 667,300 sq nautical miles.

Geology: Coastal onshore, crystalline. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, c. Onshore source deposits, Au, Fe, Ti.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	19.9	2.7	1970	0	0	1970
Exports.....	1.2	<sup>1</sup> Negl	1970	0	0	1970

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	7.2	0	7.2	0.9	0	0.9
1961.....	9.3	0	9.3	1.2	0	1.2
1962.....	11.7	0	11.7	1.5	0	1.5
1963.....	13.2	0	13.2	1.7	0	1.7
1964.....	13.7	0	13.7	1.8	0	1.8
1965.....	12.7	0	12.7	1.6	0	1.6
1966.....	12.4	0	12.4	1.6	0	1.6
1967.....	12.4	0	12.4	1.6	0	1.6
1968.....	13.7	0	13.7	1.8	0	1.8
1969.....	13.4	0	13.4	1.7	0	1.7
1970.....	12.4	0	12.4	1.6	0	1.6
1971.....	12.9	0	12.9	1.7	0	1.7

## Natural gas (gross production)

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	77.7	0	77.7	2.2	0	2.2
1961.....	88.3	0	88.3	2.5	0	2.5
1962.....	127.1	0	127.1	3.6	0	3.6
1963.....	183.6	0	183.6	5.2	0	5.2
1964.....	222.5	0	222.5	6.3	0	6.3
1965.....	219.0	0	219.0	6.2	0	6.2
1966.....	236.6	0	236.6	6.7	0	6.7
1967.....	247.2	0	247.2	7.0	0	7.0
1968.....	247.2	0	247.2	7.0	0	7.0
1969.....	264.9	0	264.9	7.5	0	7.5
1970.....	268.4	0	268.4	7.6	0	7.6
1971.....	282.5	0	282.5	8.0	0	8.0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1950-71.....	172	0	172	22	0	22

## Natural gas

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1950-71.....	2,733	0	2,733	77	0	77

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	120	0	120	15	0	15

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	2,200	0	2,200	62	0	62

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	IV	IV	IV	III	III

## 4A. Number of production and exploratory wells completed in 1971:

	Onshore		Offshore		Total			
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
	61	20	0	0	0	61	20	81

## 4B. Number of wells producing in 1971:

377 (est) and 209 (est) SI.

## 5. Instances of licensing for offshore exploration for oil and gas:

None. Exploration is done by a government agency.

## 6. Investment in oil and gas exploration and exploitation in 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	0	0	0	NA
Percent.....	0	0	0	100

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	0	0	1971	<sup>1</sup> 758,000	<sup>1</sup> 688,000	1971
Nickel.....	127	115	1969	0	0	1971
Manganese.....	Negl	Negl	1970	3,645	3,307	1970
Cobalt.....	0	0	1970	0	0	1970

<sup>1</sup> Estimated.

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	<sup>1</sup> 755,000	<sup>1</sup> 684,800	1971
Nickel.....	0	0	1971
Manganese.....	29,457	26,723	1970
Cobalt.....	0	0	1971

<sup>1</sup> Estimated.

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[M = Moderate; S = Sparse]		
0-50 miles	50-200 miles	200-400 miles
S *	M	M

## 10. Instances of licensing for offshore exploration for hard minerals:

None. Exploration is done by a government agency.

## CHINA, PEOPLE'S REPUBLIC OF

Category: Open shelf.

Bordering water bodies: South China Sea, East China Sea.

Coastal length: 3,492 nautical miles.

Shelf area to 200-m depth: 230,100 sq nautical miles.

Margin: Area to 3,000-m depth, 281,000 sq nautical miles. Area to 200 nautical miles, 281,000 sq nautical miles.

Geology: Coastal onshore, crystalline/sedimentary. Offshore, crystalline/sedimentary.

Coastal and offshore placers: Active, none. Known, Ti, m, z.

Onshore source deposits, Au, Fe, Ti, m, z.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	(1)	(1)	1970	0	0	1970
Exports.....	0	0	1970	0	0	1970

<sup>1</sup> \$3.3 million.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore <sup>1</sup>	Offshore	Total <sup>1</sup>	Onshore <sup>1</sup>	Offshore	Total <sup>1</sup>
1960.....	<32.9	Negl	32.9	<4.5	Negl	4.5
1961.....	<35.0	Negl	35.0	<4.8	Negl	4.8
1962.....	<38.7	Negl	38.7	<5.3	Negl	5.3
1963.....	<43.8	Negl	43.8	<6.0	Negl	6.0
1964.....	<54.8	Negl	54.8	<7.5	Negl	7.5
1965.....	<65.7	Negl	65.7	<9.0	Negl	9.0
1966.....	<75.9	Negl	75.9	<10.4	Negl	10.4
1967.....	<80.3	Negl	80.3	<11.0	Negl	11.0
1968.....	<94.9	Negl	94.9	<13.0	Negl	13.0
1969.....	<116.8	Negl	116.8	<16.0	Negl	16.0
1970.....	<146.0	Negl	146.0	<20.0	Negl	20.0
1971.....	<182.5	Negl	182.5	<25.0	Negl	25.0

## Natural gas (gross production)

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	NA	NA	NA	NA	NA	NA
1961.....	NA	NA	NA	NA	NA	NA
1962.....	NA	NA	NA	NA	NA	NA
1963.....	NA	NA	NA	NA	NA	NA
1964.....	NA	NA	NA	NA	NA	NA
1965.....	NA	NA	NA	NA	NA	NA
1966.....	NA	NA	NA	NA	NA	NA
1967.....	NA	NA	NA	NA	NA	NA
1968.....	NA	NA	NA	NA	NA	NA
1969.....	NA	NA	NA	NA	NA	NA
1970.....	NA	NA	401	NA	NA	11.4
1971.....	NA	NA	150	NA	NA	4.2

<sup>1</sup> Estimated.

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960-71.....	<971	Negl	971	<133	Negl	133

## Natural gas

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1939-71.....	>4,180	NA	>4,180	>118	NA	>118

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	<20,000	NA	20,000	<2,700	NA	2,700

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	4,000	NA	>4,000	100	NA	>100

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	III	IV	III	II	III	II

## 4A. Number of production and exploratory wells completed in 1971:

	Onshore		Offshore		Total			
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
	NA	NA	NA	NA	NA	NA	NA	NA

## 4B. Number of wells producing in 1971:

Not available.

## 5. Instances of licensing for offshore exploration for oil and gas:

None.

## 6. Investment in oil and gas exploration and exploitation in 1971:

	By local companies		By U.S. companies		By companies of other countries		By government	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
Amount.....	0		0		0		NA	
Percent.....	0		0		0		100	

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
	Copper.....	69,650	63,200	1969	NA	NA	1969
Nickel.....	1,525	1,383	1969	NA	NA	1970
Manganese.....	NA	NA	1970	129,260	126,555	1969
Cobalt.....	NA	NA	1970	NA	NA	1970

<sup>1</sup> Estimated.

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons		Metric tons		Year	
	Short tons	Metric tons	Short tons	Metric tons	Year	Year
Copper <sup>1</sup> .....	110,000	100,000	Negl	Negl	1970	1971
Nickel.....	1,100,000	1,000,000	Negl	Negl	1970	1971
Manganese <sup>1</sup> .....	NA	NA	NA	NA	1970	1971
Cobalt.....	NA	NA	NA	NA	1970	1971

<sup>1</sup> Estimated.

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[S = Sparse; NI = No information]

0-50 miles	50-200 miles	200-400 miles
NI	NI	S

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## CHINA, REPUBLIC OF (TAIWAN)

Category: Open shelf.

Bordering water bodies: Pacific Ocean, South China Sea.

Coastal length: 470 nautical miles.

Shelf area to 200-m depth: 23,500 sq nautical miles.

Margin: Area to 3,000-m depth, 39,900 sq nautical miles.

Area to 200 nautical miles, 114,400 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, c. Known, none. Onshore source deposits, Au, Ti, m, z.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	36.7	5.0	1970	Negl	Negl	1970
Exports.....	3.8	.1	1970	Negl	Negl	1970

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	Negl	0	Negl	Negl	0	Negl
1961.....	Negl	0	Negl	Negl	0	Negl
1962.....	Negl	0	Negl	Negl	0	Negl
1963.....	Negl	0	Negl	Negl	0	Negl
1964.....	0.1	0	0.1	Negl	0	Negl
1965.....	.1	0	.1	Negl	0	Negl
1966.....	.2	0	.2	Negl	0	Negl
1967.....	.2	0	.2	Negl	0	Negl
1968.....	.4	0	.4	0.1	0	0.1
1969.....	.6	0	.6	.1	0	.1
1970.....	.6	0	.6	.1	0	.1
1971.....	.8	0	.8	.1	0	.1

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0.9	0	0.9	Negl	0	Negl
1961.....	1.3	0	1.3	Negl	0	Negl
1962.....	1.3	0	1.3	Negl	0	Negl
1963.....	1.9	0	1.9	0.1	0	0.1
1964.....	6.3	0	6.3	.2	0	.2
1965.....	11.6	0	11.6	.3	0	.3
1966.....	15.5	0	15.5	.4	0	.4
1967.....	18.6	0	18.6	.5	0	.5
1968.....	24.9	0	24.9	.7	0	.7
1969.....	31.6	0	31.6	.9	0	.9
1970.....	32.4	0	32.4	.9	0	.9
1971.....	38.5	0	38.5	1.1	0	1.1

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1941-71.....	3.6	0	3.6	0.5	0	0.5

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1941-71.....	220	0	220	6	0	6

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	21	0	21	3	0	3

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	600	0	600	17	0	17

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	V	IV	IV	IV	IV	IV

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
>2	10	0	0	0	>2	10	>12

## 4B. Number of wells producing in 1971:

52 and 19 SI, all onshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

Six concessions held by six companies, three of which extend beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation, 1970-1974:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	0	(1) NA	(1) NA	(1) NA
Percent.....	0	(1) NA	(1) NA	(1) NA

<sup>1</sup> More than \$100 million; no breakdown available.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	12,057	10,938	1970	6,180	5,610	1970
Nickel.....	342	310	1970	0	0	1970
Manganese.....	1,725	1,565	1969	240	220	1969
Cobalt.....	8	7	1969	0	0	1970

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	6,690	6,070	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI=No information]

	0-50 miles	50-200 miles	200-400 miles
	NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## COLOMBIA

Category: Open shelf.

Bordering water bodies: Caribbean Sea, Pacific Ocean.

Coastal length: 1,022 nautical miles.

Shelf area to 200-m depth: 19,800 sq nautical miles.

Margin: Area to 3,000-m depth, 60,900 sq nautical miles. Area to 200 nautical miles, 175,900 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary. Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, Au, Pt.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports .....	10.5	10.1	1970	0	0	1970
Exports .....	41.8	5.9	1970	0	0	1970

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 .....	55.8	0	55.8	7.9	0	7.9
1961 .....	53.2	0	53.2	7.5	0	7.5
1962 .....	51.9	0	51.9	7.4	0	7.4
1963 .....	60.3	0	60.3	8.5	0	8.5
1964 .....	62.6	0	62.6	8.9	0	8.9
1965 .....	72.7	0	72.7	10.3	0	10.3
1966 .....	71.4	0	71.4	10.1	0	10.1
1967 .....	68.9	0	68.9	9.8	0	9.8
1968 .....	68.7	0	68.7	9.0	0	9.0
1969 .....	76.8	0	76.8	10.9	0	10.9
1970 .....	79.6	0	79.6	11.3	0	11.3
1971 .....	78.1	0	78.1	11.1	0	11.1

## Natural gas (gross production)

	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	1960 .....	82.6	0	82.6	2.3	0	2.3
1961 .....	78.8	0	78.8	2.2	0	2.2
1962 .....	78.4	0	78.4	2.2	0	2.2
1963 .....	83.0	0	83.0	2.4	0	2.4
1964 .....	84.7	0	84.7	2.4	0	2.4
1965 .....	93.8	0	93.8	2.7	0	2.7
1966 .....	98.1	0	98.1	2.8	0	2.8
1967 .....	99.9	0	99.9	2.8	0	2.8
1968 .....	95.4	0	95.4	2.7	0	2.7
1969 .....	103.9	0	103.9	2.9	0	2.9
1970 .....	104.9	0	104.9	3.0	0	3.0
1971 .....	83.2	0	83.2	2.4	0	2.4

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1921-71 .....	1,650	0	1,650	234	0	234

## Natural gas

	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	1921-71 .....	2,584	0	2,584	73	0	73

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 .....	1,663	0	1,663	236	0	236

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 .....	2,500	0	2,500	70	0	70

## 3B. Potential resources (ultimate recoverable resources):

Category .....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	III	IV	III	III	III	III

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Production	Exploratory	Production	Exploratory, <200 m	Exploratory, >200 m	Production	Exploratory	All wells
68	14	0	3	0	68	17	85

## 4B. Number of wells producing in 1971:

2,143 and 463 SI, all onshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

Several offshore concessions have been granted, all within 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount .....	(1)	(2)	(2)	(1)
Percent .....	(1)	(2)	(2)	(1)

<sup>1</sup> Estimated \$395 million or 28 percent; no breakdown available.

<sup>2</sup> Estimated \$1,000 million or 72 percent; no breakdown available.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
	Copper .....	4,871	4,420	1969	860	780	1969
Nickel .....	239	217	1969	0	0	1970
Manganese .....	NA	NA	1969	0	0	1970
Cobalt .....	NA	NA	1969	0	0	1970

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
	Copper .....	220	200	1970
Nickel .....	NA	NA	1970
Manganese .....	511	464	1970
Cobalt .....	NA	NA	1970

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[S = Sparse; NI = No information]

	0-50 miles	50-200 miles	200-400 miles
	NI	S	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## CONGO (BRAZZAVILLE)

Category: Open shelf.

Bordering water body: Atlantic Ocean.

Coastal length: 84 nautical miles.

Shelf area to 200-m depth: 2,600 sq nautical miles.

Margin: Area to 3,000-m depth, 7,200 sq nautical miles. Area to 200 nautical miles, 7,200 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, Sn.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	Negl	Negl	1968	NA	NA	1968
Exports.....	Negl	Negl	1968	NA	NA	1968

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0.4	0	0.4	0.1	0	0.1
1961.....	.7	0	.7	.1	0	.1
1962.....	.8	0	.8	.1	0	.1
1963.....	.7	0	.7	.1	0	.1
1964.....	.6	0	.6	.1	0	.1
1965.....	.5	0	.5	.1	0	.1
1966.....	.4	0	.4	.1	0	.1
1967.....	.3	0	.3	.1	0	.1
1968.....	.3	0	.3	.1	0	.1
1969.....	.2	0	.2	Negl	0	Negl
1970.....	.1	0	.1	Negl	0	Negl
1971.....	.2	SI	.2	Negl	SI	Negl

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	NA	0	NA	NA	0	NA
1961.....	NA	0	NA	NA	0	NA
1962.....	NA	0	NA	NA	0	NA
1963.....	NA	0	NA	NA	0	NA
1964.....	NA	0	NA	NA	0	NA
1965.....	NA	0	NA	NA	0	NA
1966.....	NA	0	NA	NA	0	NA
1967.....	NA	0	NA	NA	0	NA
1968.....	1.2	0	1.2	Negl	0	Negl
1969.....	1.1	0	1.1	Negl	0	Negl
1970.....	.4	0	.4	Negl	0	Negl
1971.....	.4	0	.4	Negl	0	Negl

<sup>1</sup> Estimated.

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960-71.....	5.2	SI	5.2	0.7	SI	0.7

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960-71.....	1.1	0	1.1	Negl	0	Negl

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	500	2,800	3,300	70	370	440

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1970.....	NA	NA	>5	NA	NA	Negl

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	V	IV	III	V	III

## 4A. Number of production and exploratory wells completed in 1971:

	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
	0	0	14	2	0	14	2
							16

## 4B. Number of wells producing in 1971:

Five and four SI, all onshore; 11 SI offshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

Concessions granted within 200-m depth.

## 6. Investment in oil and gas exploration and exploitation in 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
	Amount.....	NA	NA	NA	NA
Percent.....	NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	53	48	1968	7,699	6,984	1968
Nickel.....	NA	NA	1968	NA	NA	1968
Manganese.....	NA	NA	1968	NA	NA	1968
Cobalt.....	NA	NA	1968	NA	NA	1968

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
	Copper <sup>1</sup> .....	880	800	1969
Nickel.....	NA	NA	1969
Manganese.....	NA	NA	1969
Cobalt.....	NA	NA	1969

<sup>1</sup> Estimated.

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## COSTA RICA

Category: Open shelf.

Bordering water bodies: Pacific Ocean, Caribbean Sea.

Coastal length: 446 nautical miles.

Shelf area to 200-m depth: 4,600 sq nautical miles.

Margin: Area to 3,000-m depth, 15,100 sq nautical miles. Area to 200 nautical miles, 75,500 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary. Coastal and offshore placers: Active, none. Known, Fe. Onshore source deposits, Au.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	3.2	0.4	1970	NA	NA	1971
Exports.....	1.5	1.1	1970	0	0	1971

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971.....	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	VI	V	V	VI	IV	IV

4A. Number of production and exploratory wells completed in 1971:<sup>1</sup>

	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
	0	0	0	0	0	0	0

<sup>1</sup> Approximately 20 exploratory wells completed prior to 1971, all onshore.

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

One French company has the only current concession. It includes both continental shelves to the 200-m depth.

## 6. Investment in oil and gas exploration and exploitation in 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	NA	0	\$0.1 million	0
Percent.....	NA	0	NA	0

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	NA	NA	1968	NA	NA	1968
Nickel.....	NA	NA	1968	NA	NA	1968
Manganese.....	NA	NA	1968	NA	NA	1968
Cobalt.....	NA	NA	1968	NA	NA	1968

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## CYPRUS

Category: Open shelf.

Bordering water body: Mediterranean Sea.

Coastal length: 290 nautical miles.

Shelf area to 200 m-depth: 1,900 sq nautical miles.

Margin: Area to 3,000-m depth, 11,900 sq nautical miles. Area to 200 nautical miles, 29,000 sq nautical miles.

Geology: Coastal onshore, sedimentary/crystalline. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	14.3	10.6	1971	0	0	1971
Exports.....	0	0	1971	0	0	1971

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971.....	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	V	IV	IV	V	IV	IV

4A. Number of production and exploratory wells completed in 1971:<sup>1</sup>

	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
	0	0	0	0	0	0	0

<sup>1</sup> Two onshore exploratory wells were completed prior to 1971.

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

At least 10 licenses issued to four companies, for both onshore and offshore exploration in part or in whole beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation 1960-1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	0	( <sup>1</sup> )	( <sup>1</sup> )	0
Percent.....	0	NA	NA	0

<sup>1</sup> \$3.0 million; no breakdown available.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	198	180	1970	123,900	121,670	1971
Nickel.....	0	0	1971	0	0	1971
Manganese.....	0	0	1971	0	0	1971
Cobalt.....	0	0	1971	0	0	1971

<sup>1</sup> Estimated.

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Cooper <sup>1</sup> .....	20,490	18,600	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

<sup>1</sup> Estimated.

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[S = Sparse; NI = No information]

	0-50 miles	50-200 miles	200-400 miles
	NI	S	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## CZECHOSLOVAKIA

Category: Landlocked.  
 Bordering water body: None.  
 Coastal length: None.  
 Shelf area to 200-m depth: None.  
 Margin: None.  
 Geology: Sedimentary/crystalline.  
 Coastal and offshore placers: None.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	61.5	8.4	1968	20.7	0.6	1968
Exports.....	7.5	1.1	1968	Negl	Negl	1968

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0.7	---	0.7	0.1	---	0.1
1961.....	1.5	---	1.5	.2	---	.2
1962.....	1.5	---	1.5	.2	---	.2
1963.....	1.5	---	1.5	.2	---	.2
1964.....	1.5	---	1.5	.2	---	.2
1965.....	1.5	---	1.5	.2	---	.2
1966.....	1.5	---	1.5	.2	---	.2
1967.....	1.5	---	1.5	.2	---	.2
1968.....	1.5	---	1.5	.2	---	.2
1969.....	1.5	---	1.5	.2	---	.2
1970.....	1.5	---	1.5	.2	---	.2
1971.....	1.5	---	1.5	.2	---	.2

## Natural gas (gross production)

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	NA	---	NA	NA	---	NA
1961.....	NA	---	NA	NA	---	NA
1962.....	NA	---	NA	NA	---	NA
1963.....	NA	---	NA	NA	---	NA
1964.....	NA	---	NA	NA	---	NA
1965.....	NA	---	NA	NA	---	NA
1966.....	NA	---	NA	NA	---	NA
1967.....	NA	---	NA	NA	---	NA
1968.....	NA	---	NA	NA	---	NA
1969.....	31	---	31	1	---	1
1970.....	32	---	32	1	---	1
1971.....	32	---	32	1	---	1

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1919-71.....	127	---	127	14	---	14

## Natural gas

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1919-71.....	1508	---	1508	114	---	114

<sup>1</sup> Estimated.

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	NA	---	NA	NA	---	NA

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	385	---	385	11	---	11

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	---	IV	IV	---	IV

4A. Number of production and exploratory wells completed in 1971:<sup>1</sup>

	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
	NA	NA	---	---	---	NA	NA

<sup>1</sup> Twenty production and seven exploratory wells completed in 1969.

## 4B. Number of wells producing in 1971:

Not available.

## 5. Instances of licensing for offshore exploration for oil and gas:

Landlocked.

## 6. Investment in oil and gas exploration and exploitation in 1971:

	Investment			
	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	NA	0	NA	NA
Percent.....	NA	0	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
	Copper.....	1 42,300	1 38,400	1968	4,190	3,800	1968
Nickel.....	65	59	1968	292	265	1968
Manganese.....	456,340	414,100	1968	NA	NA	1968
Cobalt.....	NA	NA	1968	NA	NA	1968

<sup>1</sup> Estimated.

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Production		Year
	Short tons	Metric tons	
Copper <sup>1</sup> .....	5,500	4,990	1970
Nickel <sup>1</sup> .....	880	800	1969
Manganese <sup>1</sup> .....	99,000	90,000	1969
Cobalt.....	NA	NA	1969

<sup>1</sup> Estimated.

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

	0-50 miles	50-200 miles	200-400 miles
	---	---	---

## 10. Instances of licensing for offshore exploration for hard minerals:

Landlocked.

## DENMARK

Category: Shelf locked.

Bordering water body: North Sea.

Coastal length: 686 nautical miles.

Shelf area to 200-m depth: 20,000 sq nautical miles.

Margin: Area to 3,000-m depth, 20,000 sq nautical miles. Area to 200 nautical miles, 20,000 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, g. Known, none. Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports .....	153.7	21.1	1970	NA	NA	1968
Exports .....	14.5	2.0	1970	NA	NA	1968

## 2A. Annual production since 1960:

	Oil <sup>1</sup>					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 .....	0	0	0	0	0	0
1961 .....	0	0	0	0	0	0
1962 .....	0	0	0	0	0	0
1963 .....	0	0	0	0	0	0
1964 .....	0	0	0	0	0	0
1965 .....	0	0	0	0	0	0
1966 .....	0	0	0	0	0	0
1967 .....	0	SI	SI	0	SI	SI
1968 .....	0	SI	SI	0	SI	SI
1969 .....	0	SI	SI	0	SI	SI
1970 .....	0	SI	SI	0	SI	SI
1971 .....	0	SI	SI	0	SI	SI

<sup>1</sup> Offshore oil production started in July 1972.

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1967-71 .....	0	SI	SI	0	SI	SI

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1967-71 .....	0	SI	SI	0	SI	SI

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 .....	0	250	250	0	34	34

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 .....	0	500	500	0	14	14

## 3B. Potential resources (ultimate recoverable resources):

Category .....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	IV	IV	IV	IV	IV

## 4A. Number of production and exploratory wells completed in 1971:

	Onshore		Offshore			Total		
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
	0	0	2	3	0	2	3	5

## 4B. Number of wells producing in 1971:

One SI offshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

Since 1962, Danish consortium is sole concession holder for all of Denmark and its continental shelf, and in waters beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount .....	\$72 million	0	0	0
Percent .....	100	0	0	0

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper <sup>1</sup> .....	36,286	32,918	1969	9,720	8,818	1968
Nickel .....	73	66	1969	175	159	1969
Manganese .....	11,987	10,874	1968	3	3	1968
Cobalt .....	35	32	1969	NA	NA	1969

<sup>1</sup> Includes scrap.

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper .....	0	0	1971
Nickel .....	0	0	1971
Manganese .....	0	0	1971
Cobalt .....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## DOMINICAN REPUBLIC

Category: Open shelf.

Bordering water bodies: Caribbean Sea, Atlantic Ocean.

Coastal length: 325 nautical miles.

Shelf area to 200-m depth: 5,300 sq nautical miles.

Margin: Area to 3,000-m depth, 28,900 sq nautical miles.

Area to 200 nautical miles, 78,400 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	16.5	10.9	1970	0	0	1971
Exports.....	0	0	1970	0	0	1971

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

## Natural gas (gross production)

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	0	0	0	0	0

## Natural gas

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	V	V	V	V	V	V

4A. Number of production and exploratory wells completed in 1971:<sup>1</sup>

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
0	0	0	0	0	0	0	0

<sup>1</sup> Approximately five exploratory wells completed since 1960, all onshore.

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Three licenses have been issued to two companies since 1960. One company gave up its two licenses in 1971.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	\$1 million	\$0.625 million	0	0
Percent.....	62	38	0	0

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	917	832	1967	531	482	1970
Nickel.....	0	0	1971	0	0	1971
Manganese.....	0	0	1971	0	0	1971
Cobalt.....	0	0	1971	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	531	482	1970
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[M = Moderate; NI = No information]

	0-50 miles	50-200 miles	200-400 miles
	NI	M	M

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## ECUADOR

Category: Open shelf.

Bordering water body: Pacific Ocean.

Coastal length: 458 nautical miles.

Shelf area to 200-m depth: 13,700 sq nautical miles.

Margin: Area to 3,000-m depth, 52,600 sq nautical miles. Area to 200 nautical miles, 338,000 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, Au, Ti.

Onshore source deposits, Ag, Au, Ti.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports .....	7.7	1.1	1970	0	0	1970
Exports .....	0	0	1970	0	0	1970

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 .....	2.7	0	2.7	0.4	0	0.4
1961 .....	2.9	0	2.9	.4	0	.4
1962 .....	2.6	0	2.6	.3	0	.3
1963 .....	2.5	0	2.5	.3	0	.3
1964 .....	2.8	0	2.8	.4	0	.4
1965 .....	2.8	0	2.8	.4	0	.4
1966 .....	2.6	0	2.6	.3	0	.3
1967 .....	2.2	0	2.2	.3	0	.3
1968 .....	1.8	0	1.8	.2	0	.2
1969 .....	1.6	0	1.6	.2	0	.2
1970 .....	1.4	0	1.4	.2	0	.2
1971 .....	1.4	0	1.4	.2	0	.2

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 .....	NA	0	NA	NA	0	NA
1961 .....	NA	0	NA	NA	0	NA
1962 .....	NA	0	NA	NA	0	NA
1963 .....	NA	0	NA	NA	0	NA
1964 .....	NA	0	NA	NA	0	NA
1965 .....	NA	0	NA	NA	0	NA
1966 .....	NA	0	NA	NA	0	NA
1967 .....	6.7	0	6.7	0.2	0	0.2
1968 .....	5.8	0	5.8	.2	0	.2
1969 .....	5.8	0	5.8	.2	0	.2
1970 .....	10.2	0	10.2	.3	0	.3
1971 .....	2.9	0	2.9	.1	0	.1

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1917-71 .....	106	0	106	14	0	14

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1917-71 .....	203	0	203	6	0	6

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 .....	5,748	0	5,748	758	0	758

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 .....	1 5,540	1 460	6,000	1 157	1 13	170

<sup>1</sup> Estimated.

## 3B. Potential resources (ultimate recoverable resources):

Category .....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	III	IV	III	III	III	III

## 4A. Number of production and exploratory wells completed in 1971:

Category .....	Onshore		Offshore			Total		
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
	16	9	0	6	0	16	15	31

## 4B. Number of wells producing in 1971:

696 and 1,961 SI, all onshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

Seven concessions granted to four companies, all within 200-m depth.

## 6. Investment in oil and gas exploration and exploitation in 1971:

	By local companies		By U.S. companies		By companies of other countries		By government	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
Amount .....	<sup>1</sup> \$1 million		<sup>1</sup> \$300 million		<sup>1</sup> \$2 million		0	
Percent .....	0.3		99		0.7		0	

<sup>1</sup> Estimated.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper .....	780	700	1968	NA	NA	1971
Nickel .....	0	0	1971	NA	NA	1971
Manganese .....	0	0	1971	NA	NA	1971
Cobalt .....	NA	NA	1971	NA	NA	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons		Metric tons		Year	
Copper .....	600		544			1970
Nickel .....	0		0			1970
Manganese .....	0		0			1970
Cobalt .....	0		0			1970

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

	[S = Sparse]		
	0-50 miles	50-200 miles	200-400 miles
	S	S	S

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## EGYPT (UNITED ARAB REPUBLIC)

Category: Open shelf.

Bordering water bodies: Red Sea, Mediterranean Sea.

Coastal length: 1,307 nautical miles.

Shelf area to 200-m depth: 10,900 sq nautical miles.

Margin: Area to 3,000-m depth, 28,900 sq nautical miles.

Area to 200 nautical miles, 50,600 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, Fe, Ti, m, z. Known, none. Onshore source deposits, Fe, Ti, m, z.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal of bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports	24.9	3.4	1970	3.0	0.1	1969
Exports	<sup>1</sup> 90.5	13.1	1970	Negl	Negl	1969

<sup>1</sup> Estimate.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960	24.0	0	24.0	3.5	0	3.5
1961	26.1	0	26.1	3.8	0	3.8
1962	32.3	0	32.3	4.7	0	4.7
1963	38.8	0	38.8	5.6	0	5.6
1964	43.9	0	43.9	6.3	0	6.3
1965	45.6	0	45.6	6.6	0	6.6
1966	NA	NA	44.1	NA	NA	6.4
1967	NA	NA	39.6	NA	NA	5.7
1968	NA	NA	62.2	NA	NA	9.0
1969	NA	NA	89.6	NA	NA	12.9
1970	NA	NA	119.2	NA	NA	17.2
1971	63.5	44.2	107.7	9.1	6.4	15.5

## Natural gas (gross production)

	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	1960	NA	0	NA	NA	0	NA
1961	NA	0	NA	NA	0	NA
1962	NA	0	NA	NA	0	NA
1963	NA	0	NA	NA	0	NA
1964	NA	0	NA	NA	0	NA
1965	NA	0	NA	NA	0	NA
1966	NA	0	NA	NA	0	NA
1967	NA	0	NA	NA	0	NA
1968	19.0	0	19.0	0.5	0	0.5
1969	23.0	0	23.0	.8	0	.8
1970	37.0	0	37.0	1.0	0	1.0
1971	39.0	SI	39.0	1.1	SI	1.1

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1911-71	464	472	936	67	68	135

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1911-71	299	SI	299	8.5	SI	8.5

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971	NA	NA	4,000	NA	NA	570

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971	<7,500	NA	7,500	<210	NA	210

## 3B. Potential resources (ultimate recoverable resources):

Category	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	III	III	II	III	II

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total	
Production	Exploratory	Production	Exploratory, <200 m	Exploratory, >200 m	Production	Exploratory All wells
15	22	6	0	0	21	22
						43

## 4B. Number of wells producing in 1971:

204 (est) and 186 SI (est).

## 5. Instances of licensing for offshore exploration for oil and gas:

Many concessions granted to six companies in the Suez Gulf and Red Sea. Six concessions (mainly onshore) granted to three companies in the Mediterranean Sea. Some of the concessions extend beyond the 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	Amount Percent	By local companies	By U.S. companies	By companies of other countries	By government
		NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
	Copper	<sup>1</sup> 1,876	<sup>1</sup> 1,702	1969	96	37	1969
Nickel	16	15	1969	0	0	1969
Manganese	<sup>2</sup> 1,484	<sup>2</sup> 1,346	1969	0	0	1968
Cobalt	0	0	1971	0	0	1969

<sup>1</sup> Estimated.

<sup>2</sup> Oxides.

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper	5,722	5,191	1968
Nickel	0	0	1970
Manganese	4,400	4,000	1969
Cobalt	0	0	1970

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI=No information]:		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## EL SALVADOR

Category: Open shelf.

Bordering water body: Pacific Ocean.

Coastal length: 164 nautical miles.

Shelf area to 200-m depth: 5,200 sq nautical miles.

Margin: Area to 3,000-m depth, 12,300 sq nautical miles.

Area to 200 nautical miles, 26,800 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	2.0	0.3	1970	0	0	1971
Exports.....	Negl	Negl	1970	0	0	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971.....	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	0	V	V	0	V	V

## 4A. Number of production and exploratory wells completed through 1971:

	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, < 200 m	Explor-atory, > 200 m	Pro-duction	Explor-atory
	0	0	0	0	0	0	0

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

None.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	0	0	0	0
Percent.....	0	0	0	0

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	2	2	1971	0	0	1971
Nickel.....	0	0	1971	0	0	1971
Manganese.....	4	4	1971	0	0	1971
Cobalt.....	.4	.4	1971	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## ETHIOPIA

Category: Open shelf.

Bordering water body: Red Sea.

Coastal length: 546 nautical miles.

Shelf area to 200-m depth: 13,900 sq nautical miles.

Margin: Area to 3,000-m depth, 22,100 sq nautical miles.

Area to 200 nautical miles, 22,100 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports -----	14.8	1.07	1970	NA	NA	1968
Exports -----	.5	.1	1970	NA	NA	1968

<sup>1</sup> Estimated.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	0	0	0	0	0

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	NA	NA	0	NA	NA

## 3B. Potential resources (ultimate recoverable resources):

Category -----	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	V	V	V	III	IV	III

4A. Number of production and exploratory wells completed in 1971:<sup>1</sup>

Category -----	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
	0	0	0	0	0	0	0

<sup>1</sup> Approximately four onshore and two offshore wells were completed prior to 1971.

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Exploration licenses granted to five American companies, some extending beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

Amount Percent -----	By local companies	By U.S. companies	By companies of other countries	By government
		0	<sup>1</sup> \$50 million	\$10 million
	0	83	17	0

<sup>1</sup> Estimated.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper -----	132	120	1968	NA	NA	1968
Nickel -----	NA	NA	1968	NA	NA	1968
Manganese -----	NA	NA	1968	NA	NA	1968
Cobalt -----	NA	NA	1968	NA	NA	1968

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
	Copper -----	0	0	1971
Nickel -----	0	0	1971
Manganese -----	0	0	1971
Cobalt -----	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

	[NI=No information]		
	0-50 miles	50-200 miles	200-400 miles
	NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## FIJI

Category: Archipelago.

Bordering water body: Pacific Ocean.

Coastal length: 100 nautical miles.

Shelf area to 200-m depth: 600 sq nautical miles (est).

Margin: Area to 3,000-m depth, 1,000 sq nautical miles (est).

Area to 200 nautical miles, 330,900 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, Sn. Known, none. Onshore source deposits, Au, Ti.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	2.0	0.3	1970	0	0	1970
Exports.....	0	0	1970	0	0	1970

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971.....	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	V	V	V	V	V	V

## 4A. Number of production and exploratory wells completed in 1971:

	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
	0	0	0	0	0	0	0

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Concessions granted to five companies, some extending beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	NA	NA	NA	NA
Percent.....	NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
	Copper.....	84	76	1968	1 880	1 800	1968
Nickel.....	NA	NA	1968	NA	NA	1968
Manganese.....	NA	NA	1968	12,000	11,000	1969
Cobalt.....	NA	NA	1968	NA	NA	1968

<sup>1</sup> Estimated.

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	472	428	1969
Nickel.....	0	0	1969
Manganese.....	27,000	24,000	1970
Cobalt.....	0	0	1969

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[S = Sparse]		
0-50 miles	50-200 miles	200-400 miles
S	S	S

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## FINLAND

Category: Shelf locked.

Bordering water body: Baltic Sea.

Coastal length: 735 nautical miles.

Shelf area to 200-m depth: 28,600 sq nautical miles.

Margin: Area to 3,000-m depth, 28,600 sq nautical miles. Area to 200 nautical miles, 28,600 sq nautical miles.

Geology: Coastal onshore, crystalline. Offshore, crystalline.

Coastal and offshore placers: Active, none. Known, Fe, Ti, ls. Onshore source deposits, Fe.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports .....	95.0	13.0	1970	0	0	1971
Exports .....	3.9	.5	1970	0	0	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 .....	0	0	0	0	0	0
1961 .....	0	0	0	0	0	0
1962 .....	0	0	0	0	0	0
1963 .....	0	0	0	0	0	0
1964 .....	0	0	0	0	0	0
1965 .....	0	0	0	0	0	0
1966 .....	0	0	0	0	0	0
1967 .....	0	0	0	0	0	0
1968 .....	0	0	0	0	0	0
1969 .....	0	0	0	0	0	0
1970 .....	0	0	0	0	0	0
1971 .....	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 .....	0	0	0	0	0	0
1961 .....	0	0	0	0	0	0
1962 .....	0	0	0	0	0	0
1963 .....	0	0	0	0	0	0
1964 .....	0	0	0	0	0	0
1965 .....	0	0	0	0	0	0
1966 .....	0	0	0	0	0	0
1967 .....	0	0	0	0	0	0
1968 .....	0	0	0	0	0	0
1969 .....	0	0	0	0	0	0
1970 .....	0	0	0	0	0	0
1971 .....	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 .....	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 .....	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 .....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 .....	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category .....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	0	V	V	0	V	V

## 4A. Number of production and exploratory wells completed through 1971:

	Onshore		Offshore		Total		All wells
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Pro-duction	Explor-atory, >200 m	
	0	0	0	0	0	0	0

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

None.

## 6. Investment in oil and gas exploration and exploitation in 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount .....	NA	0	0	NA
Percent .....	NA	0	0	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper .....	21,520	19,529	1970	20,230	18,355	1970
Nickel .....	400	363	1971	3,749	3,401	1971
Manganese .....	62,412	56,619	1969	NA	NA	1971
Cobalt .....	6	5	1971	775	703	1970

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper <sup>1</sup> .....	31,000	28,120	1971
Nickel <sup>1</sup> .....	4,000	3,630	1971
Manganese .....	0	0	1971
Cobalt .....	1,020	925	1971

<sup>1</sup> Estimated.

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

	[S = Sparse]		
	0-50 miles	50-200 miles	200-400 miles
	S	S	S

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## FRANCE

Category: Open shelf.

Bordering water bodies: Atlantic Ocean, Mediterranean Sea.

Coastal length: 1,373 nautical miles.

Shelf area to 200-m depth: 43,100 sq nautical miles.

Margin: Area to 3,000-m depth, 75,800 sq nautical miles. Area to 200 nautical miles, 99,500 sq nautical miles.

Geology: Coastal onshore, sedimentary/crystalline. Offshore, sedimentary/crystalline.

Coastal and offshore placers: Active, none. Known, Fe. Onshore source deposits, Fe, Sn.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	802.3	109.9	1970	131.0	3.7	1970
Exports.....	103.0	14.1	1970	0	0	1970

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	14.2	0	14.2	1.9	0	1.9
1961.....	15.6	0	15.6	2.1	0	2.1
1962.....	17.1	0	17.1	2.3	0	2.3
1963.....	18.1	0	18.1	2.5	0	2.5
1964.....	20.5	0	20.5	2.8	0	2.8
1965.....	21.8	0	21.8	3.0	0	3.0
1966.....	21.4	0	21.4	2.9	0	2.9
1967.....	20.6	0	20.6	2.8	0	2.8
1968.....	19.5	0	19.5	2.7	0	2.7
1969.....	18.2	0	18.2	2.5	0	2.5
1970.....	16.8	0	16.8	2.3	0	2.3
1971.....	13.5	0	13.5	1.9	0	1.9

## Natural gas (gross production)

	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	1960.....	156.2	0	156.2	4.4	0	4.4
1961.....	212.8	0	212.8	6.0	0	6.0
1962.....	247.5	0	247.5	7.0	0	7.0
1963.....	266.0	0	266.0	7.5	0	7.5
1964.....	280.9	0	280.9	8.0	0	8.0
1965.....	279.8	0	279.8	7.9	0	7.9
1966.....	279.3	0	279.3	7.9	0	7.9
1967.....	302.0	0	302.0	8.6	0	8.6
1968.....	304.4	0	304.4	8.6	0	8.6
1969.....	346.2	0	346.2	9.8	0	9.8
1970.....	360.0	0	360.0	10.2	0	10.2
1971.....	286.9	0	286.9	8.1	0	8.1

<sup>1</sup> Estimated.

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1918-71.....	298	0	298	41	0	41

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960-71.....	3,322	0	3,322	94	0	94

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	92	0	92	13	0	13

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	6,900	0	6,900	190	0	190

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	IV	IV	III	IV	III

## 4A. Number of production and exploratory wells completed in 1971:

	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
	5	7	0	0	0	5	7
All wells							12

## 4B. Number of wells producing in 1971:

282 and 81 SI, all onshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

Two concessions granted to two companies off west coast, in part or in whole beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	NA	NA	NA	NA
Percent.....	NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	433,950	393,780	1969	108,300	98,284	1969
Nickel.....	24,380	22,120	1969	9,935	9,015	1969
Manganese.....	1,076,000	976,132	1969	<sup>1</sup> 19,060	<sup>1</sup> 17,300	1963
Cobalt.....	<sup>2</sup> 1,840	<sup>2</sup> 1,670	1969	615	558	1969

<sup>1</sup> Estimated on the basis of reported contained manganese.

<sup>2</sup> Estimated.

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	429	389	1969
Nickel.....	Negl	Negl	1969
Manganese.....	2,868	2,602	1968
Cobalt.....	Negl	Negl	1970

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## GABON

Category: Open shelf.

Bordering water body: Atlantic Ocean.

Coastal length: 399 nautical miles.

Shelf area to 200-m depth: 13,400 sq nautical miles.

Margin: Area to 3,000-m depth, 40,900 sq nautical miles.

Area to 200 nautical miles, 62,300 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, Fe.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal of bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports -----	0.1	Negl	1970	0	0	1971
Exports -----	32.6	4.5	1971	0	0	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	5.8	0	5.8	0.8	0	0.8
1961 -----	5.8	0	5.8	.8	0	.8
1962 -----	5.8	Negl	5.8	.8	Negl	.8
1963 -----	6.5	Negl	6.5	.9	Negl	.9
1964 -----	7.2	Negl	7.2	1.0	Negl	1.0
1965 -----	8.7	0	8.7	1.2	0	1.2
1966 -----	8.0	2.1	10.1	1.1	.3	1.4
1967 -----	22.5	2.1	24.6	3.1	.3	3.4
1968 -----	27.5	5.8	33.3	3.8	.8	4.6
1969 -----	26.8	9.4	36.2	3.7	1.3	5.0
1970 -----	26.0	13.8	39.8	3.6	1.9	5.5
1971 -----	24.6	17.4	42.0	3.4	2.4	5.8

	Natural gas (marketed production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	NA	NA	0.3	NA	NA	Negl
1961 -----	NA	NA	.2	NA	NA	Negl
1962 -----	NA	NA	.3	NA	NA	Negl
1963 -----	NA	NA	.3	NA	NA	Negl
1964 -----	NA	NA	.3	NA	NA	Negl
1965 -----	NA	NA	.4	NA	NA	Negl
1966 -----	NA	NA	.4	NA	NA	Negl
1967 -----	NA	NA	.6	NA	NA	Negl
1968 -----	NA	NA	.9	NA	NA	Negl
1969 -----	NA	NA	.8	NA	NA	Negl
1970 -----	NA	NA	1.9	NA	NA	0.1
1971 -----	NA	NA	11.1	NA	NA	Negl

<sup>1</sup> Estimated.

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1958-71 -----	190	47	237	26	7	33

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1957-71 -----	NA	NA	136	NA	NA	4

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	580	170	750	80	20	100

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	NA	NA	6,500	NA	NA	180

## 3B. Potential resources (ultimate recoverable resources):

Category -----	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	IV	III	III	III	III

## 4A. Number of production and exploratory wells completed in 1971:

	Onshore		Offshore		Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory	Pro-duction	Explor-atory
	NA	3	NA	8	0	33
						11
						44

## 4B. Number of wells producing in 1971:

74 onshore and 21 offshore; 52 SI onshore and seven SI offshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

As of January 1, 1972, nine concessions granted to three consortia, two exploitation permits granted to one consortium, and 23 exploration permits granted to 11 companies and (or) consortia. Some of above extend beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
	Amount -----	0	\$37 million	NA	0
Percent -----	0	<50	>50	0

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
	Copper -----	0	0	1971	0	0	1971
Nickel -----	0	0	1971	0	0	1971
Manganese -----	0	0	1971	2,059,753	1,868,579	1971
Cobalt -----	0	0	1971	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
	Copper -----	0	0	1971
Nickel -----	0	0	1971
Manganese -----	2,059,753	1,868,579	1971
Cobalt -----	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

	[NI=No information]		
	0-50 miles	50-200 miles	200-400 miles
		NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## GERMANY, FEDERAL REPUBLIC OF (WEST)

Category: Shelf locked.

Bordering water bodies: North Sea, Baltic Sea.

Coastal length: 308 nautical miles.

Shelf area to 200-m depth: 11,900 sq nautical miles.

Margin: Area to 3,000-m depth, 11,900 sq nautical miles. Area to 200 nautical miles, 11,900 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary. Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, Fe.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	962.7	131.9	1970	179.3	5.1	1969
Exports.....	64.6	8.9	1970	12.7	.4	1969

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	39.7	0	39.7	5.5	0	5.5
1961.....	44.8	0	44.8	6.2	0	6.2
1962.....	49.1	0	49.1	6.8	0	6.8
1963.....	53.5	0	53.5	7.4	0	7.4
1964.....	55.6	0	55.6	7.7	0	7.7
1965.....	57.1	0	57.1	7.9	0	7.9
1966.....	57.1	0	57.1	7.9	0	7.9
1967.....	57.1	0	57.1	7.9	0	7.9
1968.....	57.8	0	57.8	8.0	0	8.0
1969.....	57.1	0	57.1	7.9	0	7.9
1970.....	54.2	0	54.2	7.5	0	7.5
1971.....	53.1	0	53.1	7.4	0	7.4

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	17.7	0	17.7	0.5	0	0.5
1961.....	17.7	0	17.7	.5	0	.5
1962.....	21.2	0	21.2	.6	0	.6
1963.....	31.8	0	31.8	.9	0	.9
1964.....	53.0	0	53.0	1.5	0	1.5
1965.....	77.7	0	77.7	2.2	0	2.2
1966.....	98.9	0	98.9	2.8	0	2.8
1967.....	130.7	0	130.7	3.7	0	3.7
1968.....	204.8	0	204.8	5.8	0	5.8
1969.....	286.1	0	286.1	8.1	0	8.1
1970.....	423.8	0	423.8	12.0	0	12.0
1971.....	488.5	0	488.5	13.8	0	13.8

## 2B. Cumulative production:

	Oil <sup>1</sup>					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1880-1971.....	943	0	943	131	0	131

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960-71.....	1,852	0	1,852	52	0	52

<sup>1</sup> Prior to 1945 includes East Germany.

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	591	0	591	82	0	82

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	14,000	0	14,000	390	0	390

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	IV	IV	III	IV	III

## 4A. Number of production and exploratory wells completed in 1971:

	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
	35	27	0	0	0	35	27
All wells							62

## 4B. Number of wells producing in 1971:

3,078, all onshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

Concessions have been granted, all within 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	NA	NA	NA	NA
Percent.....	NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper <sup>1</sup> .....	897,410	814,950	1969	253,680	230,200	1969
Nickel <sup>1</sup> .....	54,400	49,365	1969	13,660	12,400	1969
Manganese <sup>1</sup> .....	793,950	725,000	1969	3,025	2,745	1969
Cobalt.....	1,500	1,400	1970	220	200	1970

<sup>1</sup> Estimated

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	1,400	1,300	1969
Nickel.....	660	600	1969
Manganese.....	0	0	1969
Cobalt.....	0	0	1970

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[S = Sparse; NI = No information]

	0-50 miles	50-200 miles	200-400 miles
	NI	NI	S

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## GHANA

Category: Open shelf.

Bordering water body: Atlantic Ocean.

Coastal length: 285 nautical miles.

Shelf area to 200-m depth: 6,100 sq nautical miles.

Margin: Area to 3,000-m depth, 20,100 sq nautical miles.

Area to 200 nautical miles, 63,600 sq nautical miles.

Geology. Coastal onshore, sedimentary/crystalline. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, Au, Ti, d, m.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports -----	7.0	1.0	1970	0	0	1971
Exports -----	1.6	1.1	1970	0	0	1971

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	SI	SI	0	SI	SI
1971 -----	0	SI	SI	0	SI	SI

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	SI	SI	0	SI	SI

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	1	1	0	.1	.1

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	NA	NA	0	NA	NA

## 3B. Potential resources (ultimate recoverable resources):

Category -----	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	V	IV	IV	IV	IV	IV

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total	
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
0	0	0	2	0	0	2

## 4B. Number of wells producing in 1971:

One SI offshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

More than 11 concessions granted to eight American companies. Several extend beyond the 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount -----	0	\$40 million	0	0
Percent -----	0	100	0	0

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper -----	922	837	1970	0	0	1971
Nickel -----	Negl	Negl	1971	0	0	1971
Manganese -----	0	0	1971	1 727,000	1 660,000	1971
Cobalt -----	0	0	1971	0	0	1971

<sup>1</sup> Estimated.

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper -----	0	0	1971
Nickel -----	0	0	1971
Manganese -----	727,000	660,000	1971
Cobalt -----	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI=No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## GREECE

Category: Open shelf.

Bordering water body: Mediterranean Sea.

Coastal length: 1,645 nautical miles.

Shelf area to 200-m depth: 7,200 sq nautical miles.

Margin: Area to 3,000-m depth, 82,100 sq nautical miles. Area to 200 nautical miles, 147,300 sq nautical miles.

Geology: Coastal onshore, sedimentary/crystalline. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, Fe, Ti.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	50.7	6.9	1970	0	0	1971
Exports.....	1.1	.2	1970	0	0	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971.....	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	NA	NA	0	NA	NA

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	V	IV	IV	V	IV	IV

## 4A. Number of production and exploratory wells completed in 1971:

Category.....	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
	0	0	0	1	0	0	1

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

From September 1968 to February 1972, the Greek Government granted 17 exploration permits, all to U.S. firms, some extending beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation 1960-71:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	0	\$8.8 million	\$4.2 million	\$4.5 million
Percent.....	0	50	24	26

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	12,989	11,783	1970	1,630	1,480	1969
Nickel.....	0	0	1970	1,081	981	1971
Manganese.....	0	0	1970	5,236	4,750	1971
Cobalt.....	0	0	1970	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1971
Nickel.....	11,769	10,680	1971
Manganese.....	6,752	6,127	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI=No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

One 3-year exploration agreement for prospecting within 200-m depth for manganese, phosphates, gold, silver, precious stones, etc., ends in 1974.

## GUATEMALA

Category: Open shelf.

Bordering water bodies: Pacific Ocean, Caribbean Sea.

Coastal length: 178 nautical miles.

Shelf area to 200-m depth: 3,600 sq nautical miles.

Margin: Area to 3,000-m depth, 8,200 sq nautical miles. Area to 200 nautical miles, 28,900 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	5.8	0.8	1970	NA	NA	1970
Exports.....	0	0	1970	0	0	1970

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971.....	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	V	IV	IV	IV	IV

4A. Number of production and exploratory wells completed in 1971:<sup>1</sup>

	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
	0	0	0	0	0	0	0

<sup>1</sup> Eleven onshore (est) and one Pacific offshore (within 200-m depth) exploratory wells completed prior to 1971.

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Four concessions granted to two companies in Pacific and one concession granted to one company in Caribbean, some extending beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	NA	\$30 million	NA	0
Percent.....	NA	NA	NA	0

<sup>1</sup> Estimated.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
	Copper.....	471	428	1971	0	0	1971
Nickel.....	15	14	1971	0	0	1971
Manganese.....	Negl	Negl	1971	0	0	1971
Cobalt.....	Negl	Negl	1971	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## GUINEA

Category: Open shelf.

Bordering water body: Atlantic Ocean.

Coastal length: 190 nautical miles.

Shelf area to 200-m depth: 11,200 sq nautical miles.

Margin: Area to 3,000-m depth, 15,300 sq nautical miles.

Area to 200 nautical miles, 20,700 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, Fe. Onshore source deposits, d.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports -----	2.2	0.3	1971	0	0	1971
Exports -----	0	0	1971	0	0	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	0	0	0	0	0

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category -----	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	V	V	V	IV	IV	IV

## 4A. Number of production and exploratory wells completed through 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
0	0	0	0	0	0	0	0

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

One company had exclusive rights within 200-m depth during 1969-70. Agreement reportedly not renewed in 1971.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
	Amount -----	0	NA	NA	0
Percent -----	0	NA	NA	0

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper -----	0	0	1971	0	0	1971
Nickel -----	0	0	1971	0	0	1971
Manganese -----	0	0	1971	0	0	1971
Cobalt -----	0	0	1971	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper -----	0	0	1971
Nickel -----	0	0	1971
Manganese -----	0	0	1971
Cobalt -----	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI=No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## GUYANA

Category: Open shelf.

Bordering water body: Atlantic Ocean.

Coastal length: 232 nautical miles.

Shelf area to 200-m depth: 14,600 sq nautical miles.

Margin: Area to 3,000-m depth, 28,300 sq nautical miles.

Area to 200 nautical miles, 38,000 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, d.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	3.7	0.5	1970	Negl	Negl	1970
Exports.....	0	0	1970	0	0	1970

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971.....	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	V	IV	IV	V	IV

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, < 200 m	Explor-atory, > 200 m	Pro-duction	Explor-atory	All wells
0	0	0	1	0	0	1	1

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Four exploration licenses granted to three companies, none beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	NA	NA	NA	NA
Percent.....	NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	0	0	1970	0	0	1970
Nickel.....	0	0	1970	0	0	1970
Manganese.....	0	0	1970	0	0	1970
Cobalt.....	0	0	1970	0	0	1970

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI=No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## HAITI

Category: Open shelf.

Bordering water bodies: Caribbean Sea, Atlantic Ocean.

Coastal length: 584 nautical miles.

Shelf area to 200-m depth: 3,100 sq nautical miles.

Margin: Area to 3,000-m depth, 16,000 sq nautical miles.

Area to 200 nautical miles, 46,800 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, Ti. Onshore source deposits, Au.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	1.0	0.1	1971	NA	NA	1971
Exports.....	0	0	1971	0	0	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	V	V	V	V	V	V

4A. Number of production and exploratory wells completed in 1971:<sup>1</sup>

	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, < 200 m	Explor-atory, > 200 m	Pro-duction	Explor-atory
	0	0	0	0	0	0	0

<sup>1</sup> No wells drilled since one onshore exploratory well completed in 1959.

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Single concession granted to one American company covers most of island and offshore within and beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation, 1972-77:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	0	> \$2.5 million	0	0
Percent.....	0	100	0	0

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	NA	NA	1971	NA	NA	1971
Nickel.....	NA	NA	1971	NA	NA	1971
Manganese.....	NA	NA	1971	NA	NA	1971
Cobalt.....	NA	NA	1971	NA	NA	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	NA	NA	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[M = Moderate; NI = No information]

	0-50 miles	50-200 miles	200-400 miles
	NI	M	M

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## HONDURAS

Category: Open shelf.

Bordering water body: Caribbean Sea.

Coastal length: 374 nautical miles.

Shelf area to 200-m depth: 15,600 sq nautical miles.

Margin: Area to 3,000-m depth, 43,900 sq nautical miles.

Area to 200 nautical miles, 58,600 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, Au.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	5.9	0.8	1970	NA	NA	1970
Exports.....	2.5	1.3	1970	0	0	1970

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

## Natural gas (gross production)

	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	0	0	0	0	0

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	V	IV	IV	V	IV	IV

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore		Total			
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
0	0	0	1	0	0	1	1

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Approximately 33 concessions granted to eight companies, some extending beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation, June 1, 1971, to April 30, 1972:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	( <sup>1</sup> ) NA	( <sup>1</sup> ) NA	( <sup>1</sup> ) NA	0
Percent.....	NA	NA	NA	0

<sup>1</sup> \$6.5 million; no breakdown available.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	NA	NA	1971	NA	NA	1971
Nickel.....	NA	NA	1971	NA	NA	1971
Manganese.....	NA	NA	1971	NA	NA	1971
Cobalt.....	NA	NA	1971	NA	NA	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[M=Moderate; S=Sparse; NI=No information]

0-50 miles	50-200 miles	200-400 miles
NI	M	S

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## HUNGARY

Category: Landlocked.

Bordering water body: None.

Coastal length: None.

Shelf area to 200-m depth: None.

Margin: None.

Geology: Sedimentary.

Coastal and offshore placers: None.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports .....	135.8	14.9	1971	7.1	0.2	1971
Exports .....	NA	NA	1971	NA	NA	1971

<sup>1</sup> Crude.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 .....	9.2	---	9.2	1.2	---	1.2
1961 .....	10.7	---	10.7	1.4	---	1.4
1962 .....	12.2	---	12.2	1.6	---	1.6
1963 .....	13.7	---	13.7	1.8	---	1.8
1964 .....	13.7	---	13.7	1.8	---	1.8
1965 .....	13.7	---	13.7	1.8	---	1.8
1966 .....	13.0	---	13.0	1.7	---	1.7
1967 .....	13.0	---	13.0	1.7	---	1.7
1968 .....	13.7	---	13.7	1.8	---	1.8
1969 .....	13.7	---	13.7	1.8	---	1.8
1970 .....	14.5	---	14.5	1.9	---	1.9
1971 .....	15.3	---	15.3	2.0	---	2.0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 .....	12.1	---	12.1	0.3	---	0.3
1961 .....	11.4	---	11.4	.3	---	.3
1962 .....	12.0	---	12.0	.3	---	.3
1963 .....	21.6	---	21.6	.6	---	.6
1964 .....	29.3	---	29.3	.8	---	.8
1965 .....	39.0	---	39.0	1.1	---	1.1
1966 .....	58.0	---	58.0	1.6	---	1.6
1967 .....	72.2	---	72.2	2.0	---	2.0
1968 .....	95.4	---	95.4	2.7	---	2.7
1969 .....	113.0	---	113.0	3.2	---	3.2
1970 .....	123.6	---	123.6	3.5	---	3.5
1971 .....	130.7	---	130.7	3.7	---	3.7

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1937-71 .....	268	---	268	35	---	35

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1937-71 .....	831	---	831	24	---	24

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 .....	1,000	---	1,000	130	---	130

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 .....	3,000	---	3,000	85	---	85

## 3B. Potential resources (ultimate recoverable resources):

Category .....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	---	IV	IV	---	IV

4A. Number of production and exploratory wells completed in 1971:<sup>1</sup>

	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
	NA	NA	---	---	---	NA	NA

<sup>1</sup> Seventy (est) production and 20 (est) exploratory wells were completed in 1969.

## 4B. Number of wells producing in 1971:

Not available.

## 5. Instances of licensing for offshore exploration for oil and gas:

Landlocked.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies		By U.S. companies		By companies of other countries		By government	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
Amount .....	NA	NA	NA	NA	NA	NA	NA	NA
Percent .....	NA	NA	NA	NA	NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper .....	NA	NA	1968	NA	NA	1968
Nickel .....	NA	NA	1968	NA	NA	1968
Manganese .....	NA	NA	1968	6,451	5,852	1968
Cobalt .....	NA	NA	1968	NA	NA	1968

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper .....	1,300	1,180	1971
Nickel .....	NA	NA	1971
Manganese .....	186,000	166,000	1970
Cobalt .....	NA	NA	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

	0-50 miles	50-200 miles	200-400 miles
	-----	-----	-----

## 10. Instances of licensing for offshore exploration for hard minerals:

Landlocked.

## ICELAND

Category: Open shelf.

Bordering water body: Atlantic Ocean.

Coastal length: 1,080 nautical miles.

Shelf area to 200-m depth: 39,000 sq nautical miles.

Margin: Area to 3,000-m depth, 252,000 sq nautical miles. Area to 200 nautical miles, 252,800 sq nautical miles.

Geology: Coastal onshore, crystalline. Offshore, crystalline.

Coastal and offshore placers: Active, sh. Known, none. Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	3.9	0.5	1970	0	0	1971
Exports.....	0	0	1971	0	0	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971.....	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	0	0	0	0	0	0

## 4A. Number of production and exploratory wells completed through 1971:

	Onshore		Offshore		Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Pro-duction	Explor-atory
	0	0	0	0	0	0

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

None known. One company conducted offshore seismic survey for the government.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	NA	NA	NA	NA
Percent.....	NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	0	0	1971	0	0	1971
Nickel.....	0	0	1971	0	0	1971
Manganese.....	0	0	1971	0	0	1971
Cobalt.....	0	0	1971	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## INDIA

Category: Open shelf.

Bordering water body: Indian Ocean.

Coastal length: 2,759 nautical miles.

Shelf area to 200-m depth: 131,800 sq nautical miles.

Margin: Area to 3,000-m depth, 339,700 sq nautical miles. Area to 200 nautical miles, 587,600 sq nautical miles.

Geology: Coastal onshore, sedimentary/crystalline. Offshore, sedimentary/crystalline.

Coastal and offshore placers: Active, Ti, m, z. Known, none.

Onshore source deposits, Ti, cr, d, m, z.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	107.3	14.7	1971	0	0	1971
Exports.....	.7	.1	1971	0	0	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	3.4	0	3.4	0.5	0	0.5
1961.....	3.4	0	3.4	.5	0	.5
1962.....	8.0	0	8.0	1.1	0	1.1
1963.....	12.3	0	12.3	1.7	0	1.7
1964.....	17.0	0	17.0	2.3	0	2.3
1965.....	22.5	0	22.5	3.0	0	3.0
1966.....	34.2	0	34.2	4.6	0	4.6
1967.....	43.4	0	43.4	5.8	0	5.8
1968.....	44.8	0	44.8	6.0	0	6.0
1969.....	51.7	0	51.7	6.9	0	6.9
1970.....	52.6	0	52.6	7.1	0	7.1
1971.....	54.7	0	54.7	7.4	0	7.4

<sup>1</sup> Estimated.

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1889-1971.....	376	0	376	51	0	51

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960-71.....	337	0	337	10	0	10

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	949	0	949	128	0	128

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	1,500	0	1,500	42	0	42

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	III	III	III	III	III	III

## 4A. Number of production and exploratory wells completed in 1971:

	Onshore		Offshore		Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory	Pro-duction	Explor-atory
1971.....	0	1	0	1	0	1

<sup>1</sup> Estimated.

## 4B. Number of wells producing in 1971:

1,165 and 106 SI, all onshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

Since 1956 no concessions have been granted to private companies. The government oil company holds 46 exploration licenses.

## 6. Investment in oil and gas exploration and exploitation October 1955 to March 1972:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	NA	NA	NA	\$490 million
Percent.....	NA	NA	NA	<sup>1</sup> >90

<sup>1</sup> Estimated.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
	Copper.....	59,954	54,389	1971	4,165	3,778	1971
Nickel.....	3,922	3,558	1971	6	5	1971
Manganese.....	3,688	3,346	1971	1,416,709	1,285,218	1971
Cobalt.....	Negl	Negl	1971	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	10,668	9,678	1971
Nickel.....	0	0	1971
Manganese.....	1,961,000	1,779,000	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[S = Sparse; NI = No information]

	0-50 miles	50-200 miles	200-400 miles
	S	S	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## INDONESIA

Category: Archipelago.

Bordering water bodies: Pacific Ocean, Indian Ocean, South China Sea.

Coastal length: 19,784 nautical miles.

Shelf area to 200-m depth: 809,600 sq nautical miles.

Margin: Area to 3,000-m depth, 1,229,800 sq nautical miles.

Area to 200 nautical miles, 1,577,300 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, Sn. Known, none. Onshore source deposits, Ag, Au, Fe, Sn, Ti, cr, d, m.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports .....	8.8	1.2	1971	NA	NA	1970
Exports .....	273.7	37.2	1971	NA	NA	1970

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 .....	153.0	0	153.0	20.8	0	20.8
1961 .....	155.4	0	155.4	21.1	0	21.1
1962 .....	167.8	0	167.8	22.8	0	22.8
1963 .....	165.0	0	165.0	22.5	0	22.5
1964 .....	171.5	0	171.5	23.3	0	23.3
1965 .....	178.2	0	178.2	24.3	0	24.3
1966 .....	168.9	0	168.9	23.0	0	23.0
1967 .....	186.2	0	186.2	25.3	0	25.3
1968 .....	219.9	0	219.9	30.0	0	30.0
1969 .....	271.0	0	271.0	36.9	0	36.9
1970 .....	311.6	0	311.6	42.4	0	42.4
1971 .....	323.0	2.7	325.7	44.0	1.3	44.3

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 .....	90.7	0	90.7	2.6	0	2.6
1961 .....	95.6	0	95.6	2.7	0	2.7
1962 .....	101.0	0	101.0	2.9	0	2.9
1963 .....	103.2	0	103.2	2.9	0	2.9
1964 .....	110.0	0	110.0	3.1	0	3.1
1965 <sup>2</sup> .....	15.0	0	15.0	.4	0	.4
1966 <sup>2</sup> .....	18.0	0	18.0	.5	0	.5
1967 <sup>2</sup> .....	22.0	0	22.0	.6	0	.6
1968 .....	116.0	0	116.0	3.3	0	3.3
1969 .....	110.0	0	110.0	3.1	0	3.1
1970 .....	108.4	0	108.4	3.1	0	3.1
1971 .....	<121.2	Negl	121.2	<3.4	Negl	3.4

<sup>1</sup> Estimated.

<sup>2</sup> Marketed natural gas.

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1893-1971 .....	4,669	3	4,672	635	<1	636

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1893-1971 .....	3,823	Negl	3,823	108	Negl	108

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 .....	110,000	1400	10,400	11,350	150	1,400

<sup>1</sup> Estimated.

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 .....	4,500	NA	>4,500	130	NA	>130

## 3B. Potential resources (ultimate recoverable resources):

Category .....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	III	III	III	II	III	II
As of 1971 .....	III	III	III	II	III	II

## 4A. Number of production and exploratory wells completed in 1971:

	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
<sup>1</sup> >145	162	<7	73	0	152	135	287

<sup>1</sup> Estimated.

## 4B. Number of wells producing in 1971:

2,055 (est) and 3,925 SI (est), all onshore; three (est) offshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

Approximately 33 concessions issued to many companies, some extending beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation between 1961 and 1980:

	By local companies	By U.S. companies	By companies of other countries	By government
	(1)	(1)	(1)	(1)
Amount .....	NA	NA	NA	NA
Percent .....	NA	NA	NA	NA

<sup>1</sup> About \$400 million minimum investment under 43 production sharing contracts; no breakdown available.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
	Copper .....	1,482	1,345	1969	0	0	1969
Nickel .....	0	0	1971	19,840	18,000	1971
Manganese .....	NA	NA	1971	13,100	11,900	1971
Cobalt .....	NA	NA	1971	NA	NA	1971

<sup>1</sup> Estimated.

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
	Copper .....	0	0	1971
Nickel .....	21,820	19,800	1971
Manganese .....	13,181	11,958	1971
Cobalt .....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

	[S = Sparse; NI = No information]		
	0-50 miles	50-200 miles	200-400 miles
	As of 1971 .....	NI	S	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

One Dutch company has tin rights. One American company has nickel rights.

## IRAN

Category: Open shelf.

Bordering water bodies: Persian Gulf, Indian Ocean.

Coastal length: 990 nautical miles.

Shelf area to 200-m depth: 31,200 sq nautical miles.

Margin: Area to 3,000-m depth, 45,400 sq nautical miles. Area to 200 nautical miles, 45,400 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary. Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, cr.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	40.1	1Negl	1970	NA	NA	1970
Exports.....	1,572.6	213.4	1971	198.4	5.6	1971

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	NA	NA	385.8	NA	NA	52.3
1961.....	NA	NA	431.6	NA	NA	58.6
1962.....	NA	NA	481.9	NA	NA	65.4
1963.....	NA	NA	538.1	NA	NA	73.0
1964.....	NA	NA	618.7	NA	NA	83.9
1965.....	NA	NA	688.2	NA	NA	93.4
1966.....	NA	NA	771.2	NA	NA	104.6
1967.....	NA	NA	947.7	NA	NA	128.6
1968.....	NA	NA	1,039.3	NA	NA	141.0
1969.....	NA	NA	1,231.8	NA	NA	167.1
1970.....	NA	NA	1,397.4	NA	NA	189.6
1971.....	1,439.5	213.0	1,652.5	195.3	28.9	224.2

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	NA	NA	264.3	NA	NA	7.5
1961.....	NA	NA	296.6	NA	NA	8.4
1962.....	NA	NA	324.3	NA	NA	9.2
1963.....	NA	NA	364.9	NA	NA	10.3
1964.....	NA	NA	415.4	NA	NA	11.8
1965.....	NA	NA	509.9	NA	NA	14.4
1966.....	NA	NA	632.4	NA	NA	17.9
1967.....	NA	NA	709.2	NA	NA	20.1
1968.....	NA	NA	802.5	NA	NA	22.7
1969.....	NA	NA	892.6	NA	NA	25.3
1970.....	NA	NA	1,094.2	NA	NA	31.0
1971.....	NA	NA	1,305.2	NA	NA	37.0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1913-71.....	NA	NA	13,971	NA	NA	1,896

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1913-71.....	NA	NA	10,865	NA	NA	308

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	48,359	7,141	55,500	6,562	969	7,531

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	NA	NA	200,000	NA	NA	5,700

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	II	III	II	II	II	II

## 4A. Number of production and exploratory wells completed in 1971:

	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
	NA	46	>9	14	0	55	10

<sup>1</sup> Estimated.

## 4B. Number of wells producing in 1971:

201 onshore and 79 offshore; 25 SI onshore and 30 SI offshore.

5. Instances of licensing for offshore exploration for oil and gas:  
No information.

## 6. Investment in oil and gas exploration and exploitation 1954-1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	0	\$525 million	\$612 million	NA
Percent.....	0	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	10,076	9,141	1969	925	840	1970
Nickel.....	68	62	1969	0	0	1971
Manganese.....	880	800	1969	10,077	9,144	1970
Cobalt.....	.7	.6	1969	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper <sup>1</sup> .....	790	720	1970
Nickel.....	0	0	1971
Manganese <sup>1</sup> .....	40,000	36,000	1970
Cobalt.....	0	0	1971

<sup>1</sup> Estimated.

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## IRAQ

Category: Shelf locked.

Bordering water body: Persian Gulf.

Coastal length: 10 nautical miles.

Shelf area to 200-m depth: 200 sq nautical miles.

Margin: Area to 3,000-m depth, 200 sq nautical miles. Area to 200 nautical miles, 200 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	11.0	40.1	1970	NA	NA	1970
Exports.....	546.5	73.5	1970	NA	NA	1970

<sup>1</sup> Estimated.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	353.8	0	353.8	47.6	0	47.6
1961.....	365.6	0	365.6	49.2	0	49.2
1962.....	366.8	0	366.8	49.3	0	49.3
1963.....	423.1	0	423.1	56.9	0	56.9
1964.....	461.9	0	461.9	62.1	0	62.1
1965.....	482.5	0	482.5	64.9	0	64.9
1966.....	505.4	0	505.4	67.9	0	67.9
1967.....	448.2	0	448.2	60.3	0	60.3
1968.....	548.7	0	548.7	73.8	0	73.8
1969.....	555.2	0	555.2	74.6	0	74.6
1970.....	569.7	0	569.7	76.6	0	76.6
1971.....	624.9	0	624.9	84.0	0	84.0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	NA	0	NA	NA	0	NA
1961.....	NA	0	NA	NA	0	NA
1961.....	NA	0	NA	NA	0	NA
1963.....	NA	0	NA	NA	0	NA
1964.....	NA	0	NA	NA	0	NA
1965.....	NA	0	NA	NA	0	NA
1966.....	NA	0	NA	NA	0	NA
1967.....	NA	0	NA	NA	0	NA
1968.....	1194	0	1194	16	0	16
1969.....	1196	0	1196	16	0	16
1970.....	1200	0	1200	16	0	16
1971.....	1219	0	1219	16	0	16

<sup>1</sup> Estimated.

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1927-71.....	8,129	0	8,129	1,093	0	1,093

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1927-71.....	2,819	0	2,819	80	0	80

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	35,990	0	35,990	4,840	0	4,840

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	22,000	0	22,000	600	0	600

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	III	V	III	II	V	II

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
17	0	0	0	0	17	0	17

## 4B. Number of wells producing in 1971:

122 and 38 SI, all onshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

No concessions granted.

## 6. Investment in oil and gas exploration and exploitation in 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	0	0	0	NA
Percent.....	0	0	0	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	2,082	1,889	1969	1,681	1,525	1969
Nickel.....	Negl	Negl	1969	NA	NA	1969
Manganese.....	NA	NA	1969	NA	NA	1969
Cobalt.....	NA	NA	1969	NA	NA	1969

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1969
Nickel.....	0	0	1969
Manganese.....	0	0	1969
Cobalt.....	0	0	1969

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## IRELAND

Category: Open shelf.

Bordering water body: Atlantic Ocean.

Coastal length: 663 nautical miles.

Shelf area to 200-m depth; 36,700 sq nautical miles.

Margin: Area to 3,000-m depth, 84,100 sq nautical miles.

Area to 200 nautical miles, 110,900 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, Cu. Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	36.6	5.0	1970	NA	NA	1970
Exports.....	14.6	1.6	1970	0	0	1970

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	SI	SI	0	SI	SI

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	0	0	0	0	0

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	SI	SI	0	SI	SI

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	NA	NA	0	NA	NA

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	V	V	V	IV	IV	III

## 4A. Number of production and exploratory wells completed in 1971:

Category.....	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
	0	4	0	3	0	0	7

## 4B. Number of wells producing in 1971:

Zero and one SI offshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

Sixteen exploration licenses held by one company, all within 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	NA	NA	NA	NA
Percent.....	NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	9,670	8,775	1969	10,600	9,600	1969
Nickel.....	564	512	1970	0	0	1970
Manganese.....	0	0	1970	0	0	1970
Cobalt.....	0	0	1970	0	0	1970

<sup>1</sup> Includes 4,600 short tons (4,200 metric tons) of scrap.

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	9,182	8,332	1970
Nickel.....	0	0	1970
Manganese.....	0	0	1970
Cobalt.....	0	0	1970

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NA = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## ISRAEL

Category: Open shelf.

Bordering water body: Mediterranean Sea.

Coastal length: 124 nautical miles.

Shelf area to 200-m depth: 1,300 sq nautical miles.

Margin: Area to 3,000-m depth, 5,700 sq nautical miles. Area to 200 nautical miles, 6,800 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	42.1	5.8	1970	NA	NA	1970
Exports.....	35.3	4.8	1970	NA	NA	1970

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0.9	0	0.9	0.1	0	0.1
1961.....	1.1	0	1.1	.2	0	.2
1962.....	1.1	0	1.1	.2	0	.2
1963.....	1.1	0	1.1	.2	0	.2
1964.....	1.4	0	1.4	.2	0	.2
1965.....	1.5	0	1.5	.2	0	.2
1966.....	1.4	0	1.4	.2	0	.2
1967 <sup>1</sup> .....	NA	NA	8.7	NA	NA	1.2
1968 <sup>1</sup> .....	NA	NA	14.7	NA	NA	2.0
1969 <sup>1</sup> .....	NA	NA	18.0	NA	NA	2.5
1970 <sup>1</sup> .....	NA	NA	31.8	NA	NA	4.4
1971 <sup>1</sup> .....	<22.0	>22.0	44.0	<3.0	>3.0	6.0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	NA	0	NA	NA	0	NA
1961.....	0.1	0	0.1	Negl	0	Negl
1962.....	.4	0	.4	Negl	0	Negl
1963.....	.3	0	.3	Negl	0	Negl
1964.....	1.0	0	1.0	Negl	0	Negl
1965.....	2.7	0	2.7	0.1	0	0.1
1966.....	3.6	0	3.6	.1	0	.1
1967.....	3.8	0	3.8	.1	0	.1
1968.....	5.0	0	5.0	.1	0	.1
1969.....	4.9	0	4.9	.1	0	.1
1970.....	4.8	0	4.8	.1	0	.1
1971.....	4.4	0	4.4	.1	0	.1

<sup>1</sup> Includes estimated occupied Sinai production after June 1967.

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1958-71.....	126	0	126	18	0	18

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1955-71.....	41	0	41	1	0	1

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	10	0	10	1	0	1

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	60	0	60	2	0	2

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	IV	IV	IV	IV	IV

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
1	4	0	2	0	1	6	7

## 4B. Number of wells producing in 1971:

32, all onshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

Nine licenses granted to one joint venture consisting of seven companies. Some extend beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation 1953-71:

	By local companies	By U.S. companies	By companies of other countries	By government
	(1)	(1)	(1)	(1)
Amount.....	NA	NA	NA	NA
Percent.....	NA	NA	NA	NA

<sup>1</sup> \$100 million estimated; no breakdown available.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
	Copper.....	37,462	33,985	1970	18,781	17,038	1970
Nickel.....	246	223	1970	493	447	1970
Manganese.....	240	220	1970	0	0	1970
Cobalt.....	0	0	1970	0	0	1970

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
	Copper <sup>1</sup> .....	8,800	8,000	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

<sup>1</sup> Estimated.

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## ITALY

Category: Open shelf.

Bordering water body: Mediterranean Sea.

Coastal length: 2,451 nautical miles.

Shelf area to 200-m depth: 42,000 sq nautical miles.

Margin: Area to 3,000-m depth, 160,000 sq nautical miles. Area to 200 nautical miles, 161,000 sq nautical miles.

Geology: Coastal onshore, sedimentary/crystalline. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, Fe.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	739.1	101.2	1971	17.7	0.5	1971
Exports.....	216.3	31.7	1970	NA	NA	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	NA	NA	13.6	NA	NA	2.0
1961.....	NA	NA	13.6	NA	NA	2.0
1962.....	NA	NA	12.3	NA	NA	1.8
1963.....	NA	NA	12.3	NA	NA	1.8
1964.....	NA	NA	18.4	NA	NA	2.7
1965.....	NA	NA	15.0	NA	NA	2.2
1966.....	NA	NA	12.3	NA	NA	1.8
1967.....	NA	NA	10.9	NA	NA	1.6
1968.....	NA	NA	10.2	NA	NA	1.5
1969.....	NA	NA	10.2	NA	NA	1.4
1970.....	NA	NA	9.5	NA	NA	1.4
1971.....	NA	NA	8.9	NA	NA	1.3

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	226.0	0	226.0	6.4	0	6.4
1961.....	243.7	0	243.7	6.9	0	6.9
1962.....	254.3	0	254.3	7.2	0	7.2
1963.....	257.8	0	257.8	7.3	0	7.3
1964.....	271.9	0	271.9	7.7	0	7.7
1965.....	275.5	0	275.5	7.8	0	7.8
1966.....	300.2	10.6	310.8	8.5	.3	8.8
1967.....	317.9	14.1	332.0	9.0	.4	9.4
1968.....	335.5	31.8	367.3	9.5	.9	10.4
1969.....	335.5	77.7	413.2	9.5	2.2	11.7
1970.....	296.6	166.0	462.6	8.4	4.7	13.1
1971.....	NA	NA	459.1	NA	NA	13.0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1860-1971.....	115	62	177	17	9	26

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1865-1971.....	15,020	175	5,095	143	12	145

<sup>1</sup> Estimated.

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	134	90	224	20	13	33

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	12,800	13,200	6,000	180	190	170

<sup>1</sup> Estimated.

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	IV	IV	IV	III	III

## 4A. Number of production and exploratory wells completed in 1971:

Category.....	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
	31	23	22	16	0	53	39

## 4B. Number of wells producing in 1971:

131 and 39 SI, all onshore except for one field which lies onshore and offshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

202 exploration permits granted: 23 to Italian company, 55 to joint venture with Italian company, and 124 to other companies. Nine exploitation concessions granted: Six to Italian company, two to joint venture with Italian company, and one to other companies. Some of above extend beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	NA	NA	NA	NA
Percent.....	NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	319,271	289,638	1971	47,940	43,500	1969
Nickel.....	15,579	14,133	1971	280	254	1971
Manganese.....	<sup>1</sup> 192,850	<sup>1</sup> 175,000	1968	Negl	Negl	1968
Cobalt.....	105	95	1971	2	2	1971

<sup>1</sup> Estimated.

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper <sup>1</sup> .....	2,750	2,500	1970
Nickel.....	0	0	1971
Manganese <sup>2</sup> .....	55,000	50,000	1971
Cobalt.....	0	0	1971

<sup>1</sup> Estimated.

<sup>2</sup> Estimated on the basis of reported contained manganese.

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

	[S = Sparse; NI = No information]		
	0-50 miles	50-200 miles	200-400 miles
	NI	S	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## IVORY COAST

Category: Open shelf.

Bordering water body: Atlantic Ocean.

Coastal length: 274 nautical miles.

Shelf area to 200-m depth: 3,000 sq nautical miles.

Margin: Area to 3,000-m depth, 15,700 sq nautical miles.

Area to 200 nautical miles, 30,500 sq nautical miles.

Geology: Coastal onshore, sedimentary/crystalline. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, d.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports -----	7.3	1.0	1968	NA	NA	1968
Exports -----	2.1	1.3	1968	NA	NA	1968

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	0	0	0	0	0

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category -----	Oil			Natural Gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	V	IV	IV	V	IV	IV

4A. Number of production and exploratory wells completed in 1971:<sup>1</sup>

	Onshore		Offshore		Total		
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
	0	0	0	0	0	0	0

<sup>1</sup> Ten onshore exploratory wells completed, all prior to 1961.

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

One exploration license covering the coastal area and the entire continental shelf was granted in 1970 to a consortium of three companies.

## 6. Investment in oil and gas exploration and exploitation through 1971:

Amount Percent -----	By local companies	By U.S. companies	By companies of other countries	By government
	-----	NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
	Copper -----	196	178	1968	853	774	1968
Nickel -----	NA	NA	1968	NA	NA	1968
Manganese -----	NA	NA	1968	192,000	183,400	1970
Cobalt -----	NA	NA	1968	NA	NA	1968

<sup>1</sup> Exports include stocks and an estimated 23,000 metric tons produced in 1970.

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
	Copper -----	0	0	1969
Nickel -----	0	0	1969
Manganese -----	0	0	1971
Cobalt -----	0	0	1969

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

	[NI=No information]		
	0-50 miles	50-200 miles	200-400 miles
		NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## JAMAICA

Category: Open shelf.

Bordering water body: Caribbean Sea.

Coastal length: 280 nautical miles.

Shelf area to 200-m depth: 11,700 sq nautical miles.

Margin: Area to 3,000-m depth, 59,000 sq nautical miles.

Area to 200 nautical miles, 86,800 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, Ti. Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports -----	12.4	1.7	1971	Negl	Negl	1971
Exports -----	Negl	Negl	1971	0	0	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	0	0	0	0	0

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category -----	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	V	IV	IV	V	IV	IV

## 4A. Number of production and exploratory wells completed in 1971:

Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Six exploration licenses and 20 prospecting license, some beyond 200-m depth in 1971.

## 6. Investment in oil and gas exploration and exploitation through 1971:

Amount Percent -----	By local companies	By U.S. companies	By companies of other countries	By government
	0	NA	NA	0
0	( <sup>1</sup> )	( <sup>1</sup> )	0	

<sup>1</sup> 100 percent. Includes investments by U.S. companies and companies of other countries.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper -----	823	747	1971	32	29	1971
Nickel -----	27	24	1971	0	0	1971
Manganese -----	29	26	1971	0	0	1971
Cobalt -----	NA	NA	1971	NA	NA	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
	Copper -----	0	0	1971
Nickel -----	0	0	1971
Manganese -----	0	0	1971
Cobalt -----	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[S= Sparse; NI=No information]

	0-50 miles	50-200 miles	200-400 miles
	NI	S	S

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## JAPAN

Category: Archipelago.

Bordering water bodies: Pacific Ocean, Sea of Japan, East China Sea.

Coastal length: 4,842 nautical miles.

Shelf area to 200-m depth: 140,100 sq nautical miles.

Margin: Area to 3,000-m depth, 440,900 sq nautical miles.

Area to 200 nautical miles, 1,126,000 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, g. Known, Fe, c.

Onshore source deposits, Ag, Au, Fe, Sn, Ti, cr, m.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	1,528	209	1971	48.2	1.4	1971
Exports.....	82	11	1971	0	0	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	3.6	0.3	3.9	0.5	Negl	0.5
1961.....	4.3	.6	4.9	.6	0.1	.7
1962.....	4.5	1.0	5.5	.6	.1	.7
1963.....	4.5	1.0	5.5	.6	.1	.7
1964.....	3.6	1.0	4.6	.5	.1	.6
1965.....	4.1	.9	5.0	.6	.1	.7
1966.....	4.8	.7	5.5	.6	.1	.7
1967.....	4.8	.7	5.5	.6	.1	.7
1968.....	4.7	.7	5.4	.6	.1	.7
1969.....	4.8	.7	5.5	.6	.1	.7
1970.....	5.0	.6	5.6	.7	.1	.8
1971.....	4.7	.8	5.5	.6	.1	.7

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	10.6	3.5	14.1	0.3	0.1	0.4
1961.....	17.7	3.5	21.2	.5	.1	.6
1962.....	24.7	7.1	31.8	.7	.2	.9
1963.....	35.3	14.1	49.4	1.0	.4	1.4
1964.....	31.9	14.1	46.0	.9	.4	1.3
1965.....	38.9	7.1	46.0	1.1	.2	1.3
1966.....	42.5	3.5	46.0	1.2	.1	1.3
1967.....	42.5	3.5	46.0	1.2	.1	1.3
1968.....	45.9	3.5	49.4	1.3	.1	1.4
1969.....	49.5	3.5	53.0	1.4	.1	1.5
1970.....	56.5	3.5	60.0	1.6	.1	1.7
1971.....	NA	NA	85.4	NA	NA	2.4

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1874-1971.....	153	9	162	21	1	22

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1874-1971.....	<848	NA	848	<24	NA	24

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	14	15	29	2	2	4

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	<400	NA	400	<10	NA	10

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	IV	IV	III	IV	III

## 4A. Number of production and exploratory wells completed in 1971:

	Onshore		Offshore			Total			
	Production	Exploratory	Production	Exploratory, <200 m	Exploratory, >200 m	Production	Exploratory	All wells	
	NA	0	NA	4	0	1	9	4	13

<sup>1</sup> Estimated.

## 4B. Number of wells producing in 1971:

2,694 onshore and 131 offshore; 947 SI onshore and 14 SI offshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

Exploration licenses issued to six companies, all within 200-m depth.

## 6. Investment in oil and gas exploration and exploitation in 1970:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	( <sup>1</sup> )	NA	NA	( <sup>1</sup> )
Percent.....	NA	NA	NA	NA

<sup>1</sup> \$30.3 million; no breakdown available.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	828,000	751,000	1971	95,000	86,000	1970
Nickel.....	118,500	107,500	1970	1,350	1,230	1970
Manganese.....	2,848,000	2,584,000	1970	3,248,000	2,947,000	1970
Cobalt.....	15,500	15,000	1970	3	3	1970

<sup>1</sup> Estimated.

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	135,000	122,450	1971
Nickel.....	0	0	1971
Manganese.....	299,000	271,000	1970
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

	[S = Sparse]		
	0-50 miles	50-200 miles	200-400 miles
	S	S	S

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## KENYA

Category: Open shelf.

Bordering water body: Indian Ocean.

Coastal length: 247 nautical miles.

Shelf area to 200-m depth: 4,200 sq nautical miles.

Margin: Area to 3,000-m depth, 21,600 sq nautical miles.

Area to 200 nautical miles, 34,400 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, Ti, m.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	17.8	2.4	1970	NA	NA	1971
Exports.....	16.1	1.8	1970	0	0	1971

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971.....	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	V	IV	III	V	III

## 4A. Number of production and exploratory wells completed in 1971:

	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
	0	2	0	0	0	0	2

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

One exploration concession granted to one consortium, within 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	\$3 million	\$4.5 million	\$39 million	0
Percent.....	6	10	84	0

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	645	585	1969	Negl	Negl	1969
Nickel.....	4	4	1969	0	0	1969
Manganese.....	0	0	1969	0	0	1969
Cobalt.....	0	0	1969	0	0	1969

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	80	73	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## KOREA, REPUBLIC OF (SOUTH)

Category: Open shelf.

Bordering water bodies: Sea of Japan, East China Sea.

Coastal length: 712 nautical miles.

Shelf area to 200-m depth: 71,300 sq nautical miles.

Margin: Area to 3,000-m depth, 93,300 sq nautical miles.

Area to 200 nautical miles, 101,600 sq nautical miles.

Geology: Coastal onshore, crystalline. Offshore, crystalline/sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, Au, Fe, Ti, m, z.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	86.1	11.8	1971	Negl	Negl	1971
Exports.....	2.2	1.3	1971	Negl	Negl	1971

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	0	0	0	0	0

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	0	III	III	0	III	III

4A. Number of production and exploratory wells completed through 1971:<sup>1</sup>

	Onshore		Offshore		Total			
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
	0	0	0	0	0	0	0	0

<sup>1</sup> Offshore exploratory wells scheduled for drilling in late 1972.

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Four companies hold seven blocks covering entire continental shelf held by country; two blocks extend beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation, 1968-1977:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	0	\$20.8 million	\$ 5.6 million	\$ 6.6 million
Percent.....	0	63	17	20

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	1,406	1,276	1971	13	12	1971
Nickel.....	1,569	1,423	1971	47	43	1971
Manganese.....	28,144	25,532	1971	NA	NA	1971
Cobalt.....	Negl	Negl	1971	56	51	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	1,955	1,774	1971
Nickel.....	Negl	Negl	1971
Manganese.....	2,495	2,263	1971
Cobalt.....	Negl	Negl	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI=No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## KUWAIT

[Includes one-half of Kuwait-Saudi Arabia Neutral Zone]

Category: Shelf locked.  
 Bordering water body: Persian Gulf.  
 Coastal length: 135 nautical miles.  
 Shelf area to 200-m depth: 4,100 sq nautical miles.  
 Margin: Area to 3,000-m depth, 4,100 sq nautical miles.  
 Area to 200 nautical miles, 4,100 sq nautical miles.  
 Geology: Coastal onshore, sedimentary. Offshore, sedimentary.  
 Coastal and offshore placers: Active, none. Known, none.  
 Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	0	0	1971	0	0	1970
Exports.....	1,276	169	1971	0	0	1970

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore <sup>1</sup>	Total	Onshore	Offshore <sup>1</sup>	Total
1960.....	<sup>2</sup> 594.3	NA	619.2	<sup>2</sup> 81.8	NA	85.3
1961.....	<sup>2</sup> 600.2	NA	632.8	<sup>2</sup> 82.7	NA	87.2
1962.....	<sup>2</sup> 669.3	NA	713.9	<sup>2</sup> 92.2	NA	98.3
1963.....	788.6	24.1	762.7	101.7	3.3	105.0
1964.....	808.7	31.8	840.5	111.4	4.4	115.8
1965.....	824.6	33.4	858.0	113.6	4.6	118.2
1966.....	860.8	46.5	907.3	118.6	6.4	125.0
1967.....	861.7	51.5	913.2	118.7	7.1	125.8
1968.....	909.2	54.9	964.1	125.2	7.6	132.8
1969.....	962.7	58.8	1,021.5	132.6	8.1	140.7
1970.....	<sup>1</sup> 1,027.0	63.0	1,090.0	<sup>1</sup> 141.4	8.7	150.1
1971.....	<sup>1</sup> 1,101.5	65.3	1,166.8	<sup>1</sup> 151.7	9.0	160.7

	Natural gas (gross production) <sup>4</sup>					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	<sup>2</sup> 334.3	NA	348.3	<sup>2</sup> 9.5	NA	9.9
1961.....	<sup>2</sup> 337.6	NA	355.9	<sup>2</sup> 9.6	NA	10.1
1962.....	<sup>2</sup> 376.5	NA	401.6	<sup>2</sup> 10.7	NA	11.4
1963.....	415.5	13.5	429.0	11.7	0.4	12.1
1964.....	454.9	17.9	472.8	12.9	.5	13.4
1965.....	463.8	18.8	482.6	13.1	.6	13.7
1966.....	484.2	26.2	510.4	13.7	.8	14.5
1967.....	484.7	29.0	513.7	13.7	.8	14.5
1968.....	511.4	30.9	542.3	14.5	.9	15.4
1969.....	<sup>3</sup> 541.5	33.1	574.6	<sup>3</sup> 15.3	<sup>3</sup> 1.0	16.3
1970.....	<sup>3</sup> 577.7	35.4	613.1	<sup>3</sup> 16.4	<sup>3</sup> 1.0	17.4
1971.....	<sup>3</sup> 619.6	36.7	656.3	<sup>3</sup> 17.6	<sup>3</sup> 1.0	18.6

<sup>1</sup> Offshore production all from Neutral Zone.  
<sup>2</sup> Kuwait production only. Neutral Zone onshore-offshore breakdown not available.  
<sup>3</sup> Estimated.  
<sup>4</sup> Calculated from gas/oil ratio of 750:1 with 25 percent reinjected.

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore <sup>1</sup>	Total	Onshore	Offshore <sup>1</sup>	Total
1946-71.....	<13,776	>430	14,206	<1,897	>59	1,956

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore <sup>1</sup>	Total	Onshore	Offshore <sup>1</sup>	Total
1946-71.....	<sup>2</sup> 10,440	215	<sup>2</sup> 10,655	<sup>2</sup> 296	6	<sup>2</sup> 302

<sup>1</sup> Offshore production all from Neutral Zone.  
<sup>2</sup> Calculated from gas/oil ratio of 750:1.

## 3A. Proved recoverable reserves—Continued:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore <sup>1</sup>	Total	Onshore	Offshore <sup>1</sup>	Total
As of 1971 ----	77,323	875	78,198	10,650	120	10,770

  

	Natural gas <sup>2</sup>					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore <sup>1</sup>	Total	Onshore	Offshore <sup>1</sup>	Total
As of 1971 ----	57,992	656	58,648	1,642	19	1,661

<sup>1</sup> Offshore reserves all in Neutral Zone.  
<sup>2</sup> Calculated from gas/oil ratio of 750:1.

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	II	III	II	III	IV	III

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
8	2	6	0	0	14	2	16

## 4B. Number of wells producing in 1971:

883 (est) onshore and 49 (est) offshore; 20 SI onshore and five SI (est) offshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

Two concessions held (one is half share in Neutral Zone with Saudi Arabia), both within 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	NA	<sup>1</sup> \$350-400 million	NA	NA
Percent.....	NA	NA	NA	NA

<sup>1</sup> Estimated gross fixed asset investment.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	301	273	1969	285	259	1969
Nickel.....	NA	NA	1971	NA	NA	1971
Manganese.....	NA	NA	1971	NA	NA	1971
Cobalt.....	NA	NA	1971	NA	NA	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## LEBANON

Category: Open shelf.

Bordering water body: Mediterranean Sea.

Coastal length: 105 nautical miles.

Shelf area to 200-m depth: 1,300 sq nautical miles.

Margin: Area to 3,000-m depth, 4,600 sq nautical miles.

Area to 200 nautical miles, 6,600 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	16.5	2.3	1970	NA	NA	1970
Exports.....	3.4	1.5	1970	0	0	1970

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	V	IV	IV	V	IV	IV

4A. Number of production and exploratory wells completed in 1971:<sup>1</sup>

	Onshore		Offshore		Total			
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
	0	0	0	0	0	0	0	0

<sup>1</sup> Seven onshore exploratory wells completed prior to 1971.

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Concession (s) held, extending in part beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	NA	NA	NA	NA
Percent.....	NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	1,300	1,180	1970	0	0	1970
Nickel.....	0	0	1970	0	0	1970
Manganese.....	0	0	1970	0	0	1970
Cobalt.....	0	0	1970	0	0	1970

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	NA	NA	1969
Nickel.....	NA	NA	1969
Manganese.....	NA	NA	1969
Cobalt.....	NA	NA	1969

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## LIBERIA

Category: Open shelf.

Bordering water body: Atlantic Ocean.

Coastal length: 290 nautical miles.

Shelf area to 200-m depth: 5,700 sq nautical miles.

Margin: Area to 3,000-m depth, 19,600 sq nautical miles.

Area to 200 nautical miles, 67,000 sq nautical miles.

Geology: Coastal onshore, crystalline. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, Fe, cr.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	3.3	0.5	1970	0	0	1970
Exports.....	1.1	<sup>1</sup> Negl	1970	0	0	1970

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	0	V	V	0	V	V

## 4A. Number of production and exploratory wells completed in 1971:

	Onshore		Offshore			Total		
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
	0	0	0	4	0	0	4	4

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Five concessions held by two companies and two consortia, all within 200-m depth.

## 6. Investment in oil and gas exploration and exploitation in 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	0	\$7 million	0	0
Percent.....	0	100	0	0

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	36	33	1970	0	0	1971
Nickel.....	Negl	Negl	1970	0	0	1971
Manganese.....	Negl	Negl	1970	0	0	1971
Cobalt.....	Negl	Negl	1970	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## LIBYA

Category: Open shelf.

Bordering water body: Mediterranean Sea.

Coastal length: 910 nautical miles.

Shelf area to 200-m depth: 24,400 sq nautical miles.

Margin: Area to 3,000-m depth, 60,100 sq nautical miles.

Area to 200 nautical miles, 98,600 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	13.7	10.5	1970	0	0	1971
Exports.....	1,002.8	131.7	1971	21.4	0.6	1971

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	6.6	0	6.6	.9	0	.9
1962.....	67.1	0	67.1	8.8	0	8.8
1963.....	169.4	0	169.4	22.2	0	22.2
1964.....	315.6	0	315.6	41.4	0	41.4
1965.....	445.4	0	445.4	58.5	0	58.5
1966.....	550.2	0	550.2	72.3	0	72.3
1967.....	636.5	0	636.5	83.6	0	83.6
1968.....	951.3	0	951.3	125.0	0	125.0
1969.....	1,135.7	0	1,135.7	149.1	0	149.1
1970.....	1,209.3	0	1,209.3	158.8	0	158.8
1971.....	1,007.7	0	1,007.7	132.3	0	132.3

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	231.2	0	231.2	6.5	0	6.5
1965.....	303.4	0	303.4	8.6	0	8.6
1966.....	361.2	0	361.2	10.2	0	10.2
1967.....	415.0	0	415.0	11.8	0	11.8
1968.....	620.0	0	620.0	17.6	0	17.6
1969.....	666.5	0	666.5	18.9	0	18.9
1970.....	710.0	0	710.0	20.1	0	20.1
1971.....	556.5	SI	556.5	15.8	SI	15.8

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1961-71.....	6,495	0	6,495	853	0	853

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1964-71.....	3,864	SI	3,864	109	SI	109

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	25,000	NA	>25,000	3,300	NA	>3,300

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	<29,500	NA	29,500	<830	NA	830

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	II	II	II	II	II	II

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
46	39	0	2	0	46	41	87

## 4B. Number of wells producing in 1971:

962, all onshore; 436 SI onshore and one SI offshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

24 concessions granted to seven companies and three joint ventures. Some extend beyond the 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	NA	<sup>1</sup> \$2,800 million	<sup>1</sup> \$800 million	NA
Percent.....	NA	NA	NA	NA

<sup>1</sup> Estimated.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	<sup>1</sup> 1,100	<sup>1</sup> 1,000	1971	0	0	1971
Nickel.....	Negl	Negl	1971	0	0	1971
Manganese.....	Negl	Negl	1971	0	0	1971
Cobalt.....	Negl	Negl	1971	0	0	1971

<sup>1</sup> Estimated.

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI=No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## MALAGASY REPUBLIC

Category: Open shelf.

Bordering water body: Indian Ocean.

Coastal length: 2,155 nautical miles.

Shelf area to 200-m depth: 52,600 sq nautical miles.

Margin: Area to 3,000-m depth, 131,300 sq nautical miles.

Area to 200 nautical miles, 376,800 sq nautical miles.

Geology: Coastal onshore, sedimentary/crystalline. Offshore, sedimentary/crystalline.

Coastal and offshore placers: Active, none. Known, m, Ti, z.

Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports -----	1 4.2	1.6	1970	0	0	1971
Exports -----	0	0	1970	0	0	1971

<sup>1</sup> Crude.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	0	0	0	0	0

  

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category -----	Oil			Natural Gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	IV	IV	IV	IV	IV

## 4A. Number of production and exploration wells completed in 1971:

Onshore		Offshore			Total	
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
0	2	0	6	0	0	8

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Seven companies have exploration permits within 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount -----	0	( <sup>1</sup> )	( <sup>1</sup> )	0
Percent -----	0	( <sup>1</sup> )	( <sup>1</sup> )	0

<sup>1</sup> Estimated \$50 million (100 percent) invested by all foreign companies.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper -----	196	178	1968	0	0	1971
Nickel -----	0	0	1971	0	0	1971
Manganese -----	0	0	1971	0	0	1971
Cobalt -----	0	0	1971	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper -----	0	0	1971
Nickel -----	0	0	1971
Manganese -----	0	0	1971
Cobalt -----	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[S= Sparse; NI= No information]

0-50 miles	50-200 miles	200-400 miles
NI	NI	S

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## MALAWI

Category: Landlocked.  
 Bordering water body: None.  
 Coastal length: None.  
 Shelf area to 200-m depth: None.  
 Margin: None.  
 Geology: Crystalline/sedimentary.  
 Coastal and offshore placers: None.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports	(1)	(1)	1971	0	0	1971
Exports	0	0	1971	0	0	1971

<sup>1</sup>\$6.2 million in products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960	0	0	0	0	0	0
1961	0	0	0	0	0	0
1962	0	0	0	0	0	0
1963	0	0	0	0	0	0
1964	0	0	0	0	0	0
1965	0	0	0	0	0	0
1966	0	0	0	0	0	0
1967	0	0	0	0	0	0
1968	0	0	0	0	0	0
1969	0	0	0	0	0	0
1970	0	0	0	0	0	0
1971	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Offshore	Onshore	Total	Onshore	Offshore	Total
1960	0	0	0	0	0	0
1961	0	0	0	0	0	0
1962	0	0	0	0	0	0
1963	0	0	0	0	0	0
1964	0	0	0	0	0	0
1965	0	0	0	0	0	0
1966	0	0	0	0	0	0
1967	0	0	0	0	0	0
1968	0	0	0	0	0	0
1969	0	0	0	0	0	0
1970	0	0	0	0	0	0
1971	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Offshore	Onshore	Total	Onshore	Offshore	Total
Through 1971	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	0	0	0	0	0	0

## 4A. Number of production and exploratory wells completed through 1971:

Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
0	0	0	0	0	0	0	0

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Landlocked.

## 6. Investment in oil and gas exploration and exploitation through 1971:

Amount Percent	By local companies	By U.S. companies	By companies of other countries	By government
	(1) NA	(1) NA	(1) NA	(1) NA
0	0	0	0	0

<sup>1</sup>No current exploration; amount of investment in past exploration not known but believed quite small.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper	Negl	Negl	1971	0	0	1971
Nickel	Negl	Negl	1971	0	0	1971
Manganese	Negl	Negl	1971	0	0	1971
Cobalt	Negl	Negl	1971	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper	0	0	1971	0	0	1971
Nickel	0	0	1971	0	0	1971
Manganese	0	0	1971	0	0	1971
Cobalt	0	0	1971	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

	0-50 miles	50-200 miles	200-400 miles
	0	0	0

## 10. Instances of licensing for offshore exploration for hard minerals:

Landlocked.

## MALAYSIA

Category: Open shelf.

Bordering water bodies: South China Sea, Indian Ocean.

Coastal length: 1,853 nautical miles.

Shelf area to 200-m depth: 108,900 sq nautical miles.

Margin: Area to 3,000-m depth, 125,600 sq nautical miles.

Area to 200 nautical miles, 138,700 sq nautical miles.

Geology: Coastal onshore, sedimentary/crystalline. Offshore, sedimentary/crystalline.

Coastal and offshore placers: Active, none. Known, Sn.

Onshore source deposits, Au, Sn, Ti, cr, m, z.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	<sup>1</sup> 46.7	<sup>1</sup> 6.4	1971	0	0	1971
Exports.....	<sup>1</sup> 71.8	<sup>1</sup> 9.3	1971	0	0	1971

<sup>1</sup> Above figures for Sarawak only.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0.4	0	0.4	0.1	0	0.1
1961.....	.4	0	.4	.1	0	.1
1962.....	.4	0	.4	.1	0	.1
1963.....	.4	0	.4	.1	0	.1
1964.....	.4	0	.4	.1	0	.1
1965.....	.4	0	.4	.1	0	.1
1966.....	.3	0	.3	Negl	0	Negl
1967.....	.3	0	.3	Negl	0	Negl
1968.....	NA	NA	1.5	NA	NA	.2
1969.....	<sup>1</sup> >.2	<sup>1</sup> <3.2	3.4	Negl	<sup>1</sup> <.4	.4
1970.....	<sup>1</sup> 1.2	<sup>1</sup> 6.4	6.6	Negl	<sup>1</sup> 1.8	.9
1971.....	<sup>1</sup> 1.2	<sup>1</sup> 24.9	25.1	Negl	<sup>1</sup> 3.2	3.3

Natural gas (gross production)<sup>2</sup>

	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

<sup>1</sup> Estimated.

<sup>2</sup> Recent Shell gas discovery 90 miles offshore Sarawak; expect to begin production soon.

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960-71 <sup>1</sup> .....	4.0	35.6	39.6	0.5	4.6	5.1

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971.....	0	0	0	0	0	0

<sup>1</sup> Estimated.

3A. Proved recoverable reserves:<sup>1</sup>

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	NA	NA	950	NA	NA	120

<sup>1</sup> Includes Brunei.

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	NA	NA	7,500	NA	NA	210

3B. Potential resources (ultimate recoverable resources):<sup>1</sup>

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	III	III	III	III	III	III

<sup>1</sup> Includes Brunei.

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
NA	NA	NA	>12	0	NA	<sup>1</sup> 21	>21

<sup>1</sup> Estimated.

## 4B. Number of wells producing in 1971:

106 onshore and 27 offshore; 15 SI onshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

Licenses granted to seven companies covering a total of 175,905 square miles (small portion of that onshore). All offshore licenses within 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through May 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	0	\$47.2 million	\$96.9 million	0
Percent.....	0	33	67	0

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	3,140	2,850	1969	<sup>1</sup> 3,000	<sup>1</sup> 2,720	1969
Nickel.....	40	36	1969	0	0	1969
Manganese.....	2,890	2,620	1969	<sup>2</sup> 50,300	<sup>2</sup> 45,670	1969
Cobalt.....	Negl	Negl	1971	Negl	Negl	1971

<sup>1</sup> Includes scrap.

<sup>2</sup> Partly from stocks.

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	275	250	1969
Nickel.....	0	0	1969
Manganese.....	11,400	10,334	1969
Cobalt.....	0	0	1969

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]

0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## MALI

Category: Landlocked.  
 Bordering water body: None.  
 Coastal length: None.  
 Shelf area to 200-m depth: None.  
 Margin: None.  
 Geology: Sedimentary/crystalline.  
 Coastal and offshore placers: None.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports	<sup>1</sup> 0.7	<sup>1</sup> 0.1	1968	<sup>2</sup> Negl	<sup>2</sup> Negl	1967
Exports	<sup>1</sup> Negl	<sup>1</sup> Negl	1968	0	0	1971

<sup>1</sup> Products.<sup>2</sup> Includes manufactured gas.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960	0	---	0	0	---	0
1961	0	---	0	0	---	0
1962	0	---	0	0	---	0
1963	0	---	0	0	---	0
1964	0	---	0	0	---	0
1965	0	---	0	0	---	0
1966	0	---	0	0	---	0
1967	0	---	0	0	---	0
1968	0	---	0	0	---	0
1969	0	---	0	0	---	0
1970	0	---	0	0	---	0
1971	0	---	0	0	---	0

## Natural gas (gross production)

	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	1960	0	---	0	0	---	0
1961	0	---	0	0	---	0
1962	0	---	0	0	---	0
1963	0	---	0	0	---	0
1964	0	---	0	0	---	0
1965	0	---	0	0	---	0
1966	0	---	0	0	---	0
1967	0	---	0	0	---	0
1968	0	---	0	0	---	0
1969	0	---	0	0	---	0
1970	0	---	0	0	---	0
1971	0	---	0	0	---	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971	0	---	0	0	---	0

## Natural gas

	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	Through 1971	0	---	0	0	---

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971	0	---	0	0	---	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971	0	---	0	0	---	0

## 3B. Potential resources (ultimate recoverable resources):

Category	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	---	IV	IV	---	IV

## 4A. Number of production and exploratory wells completed in 1971:

	Onshore		Offshore		Total		
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
	0	0	---	---	---	0	0

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Landlocked.

## 6. Investment in oil and gas exploration and exploitation in 1971:

	By local companies		By U.S. companies		By companies of other countries		By government	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
Amount	0	---	0	---	0	---	NA	---
Percent	0	---	0	---	0	---	100	---

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
	Copper	56	51	1968	NA	NA	1968
Nickel	4	4	1968	NA	NA	1968
Manganese	NA	NA	1968	NA	NA	1968
Cobalt	NA	NA	1968	NA	NA	1968

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper	NA	NA	1968
Nickel	NA	NA	1968
Manganese	NA	NA	1968
Cobalt	NA	NA	1968

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

	0-50 miles	50-200 miles	200-400 miles
	---	---	---

## 10. Instances of licensing for offshore exploration for hard minerals:

Landlocked.

## MALTA

Category: Open shelf.

Bordering water body: Mediterranean Sea.

Coastal length: 50 nautical miles.

Shelf area to 200-m depth: 3,800 sq nautical miles.

Margin: Area to 3,000-m depth, 17,300 sq nautical miles.

Area to 200 nautical miles, 19,300 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, none.

### 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	2.5	0.3	1970	0	0	1970
Exports.....	NA	NA	1970	0	0	1970

### 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

### 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	0	0	0	0	0

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	0	0	0	0	0

### 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

### 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

### 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	VI	IV	IV	VI	IV	IV

### 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
0	0	0	1	0	0	1	1

### 4B. Number of wells producing in 1971:

Zero.

### 5. Instances of licensing for offshore exploration for oil and gas:

Three blocks allocated to two companies and one consortium. Exploration licenses are all within 200-m depth.

### 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	NA	NA	NA	NA
Percent.....	NA	NA	NA	NA

### 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	<sup>1</sup> 49	<sup>1</sup> 44	1970	0	0	1970
Nickel.....	18	17	1970	0	0	1970
Manganese.....	0	0	1970	0	0	1970
Cobalt.....	0	0	1970	0	0	1970

<sup>1</sup> Products.

### 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

### 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

### 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## MARTINIQUE AND GUADELOUPE

Category: Open shelf.

Bordering water bodies: Atlantic Ocean, Caribbean Sea.

Coastal length: 300 nautical miles (est).

Shelf area to 200-m depth: 700 sq nautical miles.

Margin: Area to 3,000-m depth, 9,600 sq nautical miles. Area to 200 nautical miles, 38,200 sq nautical miles.

Geology: Coastal onshore, crystalline. Offshore, crystalline/sedimentary.

Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports .....	NA	NA	1971	NA	NA	1971
Exports .....	0	0	1971	0	0	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 .....	0	0	0	0	0	0
1961 .....	0	0	0	0	0	0
1962 .....	0	0	0	0	0	0
1963 .....	0	0	0	0	0	0
1964 .....	0	0	0	0	0	0
1965 .....	0	0	0	0	0	0
1966 .....	0	0	0	0	0	0
1967 .....	0	0	0	0	0	0
1968 .....	0	0	0	0	0	0
1969 .....	0	0	0	0	0	0
1970 .....	0	0	0	0	0	0
1971 .....	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 .....	0	0	0	0	0	0
1961 .....	0	0	0	0	0	0
1962 .....	0	0	0	0	0	0
1963 .....	0	0	0	0	0	0
1964 .....	0	0	0	0	0	0
1965 .....	0	0	0	0	0	0
1966 .....	0	0	0	0	0	0
1967 .....	0	0	0	0	0	0
1968 .....	0	0	0	0	0	0
1969 .....	0	0	0	0	0	0
1970 .....	0	0	0	0	0	0
1971 .....	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 .....	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 .....	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 .....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 .....	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category .....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	0	0	0	0	0	0

## 4A. Number of production and exploratory wells completed through 1971:

	Onshore		Offshore			Total		All wells
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	
	0	0	0	0	0	0	0	0

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

No information.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount .....	0	0	0	0
Percent .....	0	0	0	0

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper .....	NA	NA	1968	0	0	1971
Nickel .....	NA	NA	1968	0	0	1971
Manganese .....	NA	NA	1968	0	0	1971
Cobalt .....	NA	NA	1968	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper .....	0	0	1971
Nickel .....	0	0	1971
Manganese .....	0	0	1971
Cobalt .....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[S = Sparse; NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	S	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## MAURITANIA

Category: Open shelf.

Bordering water body: Atlantic Ocean.

Coastal length: 360 nautical miles.

Shelf area to 200-m depth: 12,900 sq nautical miles.

Margin: Area to 3,000-m depth, 26,300 sq nautical miles.

Area to 200 nautical miles, 45,000 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, Ti, m, z.

Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports -----	18,080	11,100	1970	0	0	1970
Exports -----	0	0	1971	0	0	1971

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category -----	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	IV	IV	IV	IV	IV

4A. Number of production and exploratory wells completed in 1971:<sup>1</sup>

	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
	0	0	0	0	0	0	0

<sup>1</sup> Four exploratory wells completed prior to 1971—two onshore and two offshore, all dry.

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Two companies have exploration licenses within 200-m depth. One company has exploration license(s) beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

Amount Percent -----	By local companies	By U.S. companies	By companies of other countries	By government
	0	(1) NA	(1) NA	0

<sup>1</sup> \$15 million by U.S. companies and companies of other countries; no breakdown available.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper -----	0	0	1971	5,230	4,750	1971
Nickel -----	0	0	1971	0	0	1971
Manganese -----	0	0	1971	0	0	1971
Cobalt -----	0	0	1971	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper -----	4,700	4,200	1971
Nickel -----	0	0	1971
Manganese -----	0	0	1971
Cobalt -----	0	0	1971

9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:<sup>1</sup>

[NI=No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

<sup>1</sup> A survey is currently being conducted by Woods Hole Oceanographic Institution.

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## MAURITIUS

Category: Open shelf.

Bordering water body: Indian Ocean.

Coastal length: 87 nautical miles.

Shelf area to 200-m depth: 26,700 sq nautical miles.

Margin: Area to 3,000-m depth, 149,200 sq nautical miles.

Area to 200 nautical miles, 345,000 sq nautical miles.

Geology: Coastal onshore, crystalline. Offshore, crystalline.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports -----	1.2	1.0	1970	0	0	1970
Exports -----	NA	NA	1970	0	0	1970

<sup>1</sup> Products; estimated.

## 2A. Annual production since 1960:

	Oil			Natural gas (gross production)		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	0	0	0	0	0

	Oil			Natural gas (gross production)		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Through 1971 -----	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
As of 1971 -----	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category -----	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	0	0	0	0	0	0

## 4A. Number of production and exploratory wells completed through 1971:

Category -----	Onshore		Offshore		Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory	Pro-duction	Explor-atory
	0	0	0	0	0	0

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

One company has prospecting concession, in part or in whole beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

Amount -----	By local companies	By U.S. companies	By companies of other countries	By government
	Percent -----	NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper -----	NA	NA	1970	0	0	1970
Nickel -----	NA	NA	1970	0	0	1970
Manganese -----	NA	NA	1970	0	0	1970
Cobalt -----	NA	NA	1970	0	0	1970

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper -----	0	0	1970
Nickel -----	0	0	1970
Manganese -----	0	0	1970
Cobalt -----	0	0	1970

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[S= Sparse; NI= No information]

	0-50 miles	50-200 miles	200-400 miles
	NI	S	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## MEXICO

Category: Open shelf.

Bordering water bodies: Pacific Ocean, Gulf of Mexico, Caribbean Sea.

Coastal length: 4,848 nautical miles.

Shelf area to 200-m depth: 128,900 sq nautical miles.

Margin: Area to 3,000-m depth, 343,000 sq nautical miles. Area to 200 nautical miles, 831,500 sq nautical miles.

Geology: Coastal onshore, sedimentary/crystalline. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, Au, Fe, Ti, cr.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	15.8	2.2	1970	18.0	0.5	1970
Exports.....	15.4	2.2	1970	42.0	1.2	1970

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	NA	NA	99.0	NA	NA	13.9
1961.....	NA	NA	106.8	NA	NA	15.0
1962.....	NA	NA	111.8	NA	NA	15.7
1963.....	NA	NA	114.9	NA	NA	16.2
1964.....	NA	NA	115.6	NA	NA	16.3
1965.....	NA	NA	117.9	NA	NA	16.6
1966.....	NA	NA	121.2	NA	NA	17.1
1967.....	NA	NA	133.1	NA	NA	18.7
1968.....	NA	NA	141.5	NA	NA	19.9
1969.....	NA	NA	<sup>1</sup> 146.4	NA	NA	<sup>1</sup> 20.6
1970.....	NA	NA	177.6	NA	NA	25.0
1971.....	<sup>1</sup> 164.6	<sup>1</sup> 12.7	177.3	<sup>1</sup> 23.2	<sup>1</sup> 1.8	25.0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	NA	NA	360.7	NA	NA	10.2
1961.....	NA	NA	381.0	NA	NA	10.8
1962.....	NA	NA	392.4	NA	NA	11.1
1963.....	NA	NA	424.4	NA	NA	12.0
1964.....	NA	NA	485.1	NA	NA	13.7
1965.....	NA	NA	493.2	NA	NA	14.0
1966.....	NA	NA	529.1	NA	NA	15.0
1967.....	NA	NA	572.8	NA	NA	16.2
1968.....	NA	NA	576.9	NA	NA	16.3
1969.....	NA	NA	<sup>1</sup> 609.1	NA	NA	<sup>1</sup> 17.2
1970.....	NA	NA	665.0	NA	NA	18.8
1971.....	<643.4	Negl	643.4	<18.2	Negl	18.2

<sup>1</sup> Estimated.

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1901-71.....	4,697	78	4,775	661	11	672

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1901-71.....	NA	NA	8,560	NA	NA	242

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	NA	NA	4,500	NA	NA	630

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	NA	NA	11,500	NA	NA	326

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	III	II	II	II	III	II

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
≤387	118	≥0	1	0	387	119	506

## 4B. Number of wells producing in 1971:

3,875 onshore and 33 offshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

None. State ownership and control of petroleum industry. Government concessions are all within 200-m depth.

## 6. Investment in oil and gas exploration and exploitation in 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	0	0	0	\$296 million
Percent.....	0	0	0	100

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	626	568	1971	11,000	10,000	1971
Nickel.....	2,000	1,800	1971	0	0	1971
Manganese.....	0	0	1971	69,527	63,074	1971
Cobalt.....	NA	NA	1971	NA	NA	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	69,611	63,150	1971
Nickel.....	0	0	1971
Manganese <sup>1</sup> .....	294,120	266,900	1971
Cobalt.....	NA	NA	1971

<sup>1</sup> Estimated on the basis of reported contained manganese.

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[M = Moderate]		
0-50 miles	50-200 miles	200-400 miles
M	M	M

## 10. Instances of licensing for offshore exploration for hard minerals:

None. State ownership and control.

## MOROCCO

Category: Open shelf.

Bordering water bodies: Atlantic Ocean, Mediterranean Sea.

Coastal length: 895 nautical miles.

Shelf area to 200-m depth: 18,100 sq nautical miles.

Margin: Area to 3,000-m depth, 42,100 sq nautical miles.

Area to 200 nautical miles, 81,000 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, Fe, Ti.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal of bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports -----	11.7	1.6	1971	0	0	1971
Exports -----	0	0	1971	0	0	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of metric tons			Millions of 42-gal bbl		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0.8	0	0.8	0.1	0	0.1
1961 -----	.8	0	.8	.1	0	.1
1962 -----	.8	0	.8	.1	0	.1
1963 -----	.8	0	.8	.1	0	.1
1964 -----	.8	0	.8	.1	0	.1
1965 -----	.8	0	.8	.1	0	.1
1966 -----	.8	0	.8	.1	0	.1
1967 -----	.8	0	.8	.1	0	.1
1968 -----	.8	0	.8	.1	0	.1
1969 -----	.8	0	.8	.1	0	.1
1970 -----	.3	0	.3	Negl	0	Negl
1971 -----	.2	0	.2	Negl	0	Negl

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0.3	0	0.3	Negl	0	Negl
1961 -----	Negl	0	Negl	Negl	0	Negl
1962 -----	.3	0	.3	Negl	0	Negl
1963 -----	.4	0	.4	Negl	0	Negl
1964 -----	.4	0	.4	Negl	0	Negl
1965 -----	.4	0	.4	Negl	0	Negl
1966 -----	.4	0	.4	Negl	0	Negl
1967 -----	.4	0	.4	Negl	0	Negl
1968 -----	.4	0	.4	Negl	0	Negl
1969 -----	1.5	0	1.5	Negl	0	Negl
1970 -----	1.6	0	1.6	Negl	0	Negl
1971 -----	1.7	0	1.7	Negl	0	Negl

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1943-1971 -----	15	0	15	2	0	2

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1931-1971 -----	8	0	8	.2	0	.2

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	1.2	0	1.2	.2	0	.2

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	18	0	18	0.5	0	0.5

## 3B. Potential resources (ultimate recoverable resources):

Category -----	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	IV	IV	IV	IV	IV

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
1	6	0	2	0	1	8	9

## 4B. Number of wells producing in 1971:

36, all onshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

Exploration permits were limited within 200-m depth until early 1970. Since then, permits have been granted to about 500-m depth. About 11 permits granted to three companies. It seems that new foreign investment is usually made via a joint venture with the government.

## 6. Investment in oil and gas exploration and exploitation, 1958-70:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount -----	( <sup>1</sup> )	\$19.6 million	( <sup>1</sup> )	( <sup>1</sup> )
Percent -----	NA	24	NA	NA

<sup>1</sup> 63.6 million, breakdown not available.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Years	Short tons	Metric tons	Years
Copper -----	3,650	3,300	1970	13,450	13,130	1971
Nickel -----	0	0	1971	0	0	1971
Manganese -----	0	0	1971	100,534	91,203	1971
Cobalt -----	0	0	1971	440	400	1971

<sup>1</sup> Estimated.

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper <sup>1</sup> -----	3,690	3,350	1971
Nickel -----	152	138	1970
Manganese -----	111,836	101,456	1971
Cobalt <sup>1</sup> -----	1,080	980	1971

<sup>1</sup> Estimated.

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI=No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## MOZAMBIQUE

Category: Open shelf.

Bordering water body: Indian Ocean.

Coastal length: 1,352 nautical miles.

Shelf area to 200-m depth: 30,400 sq nautical miles.

Margin: Area to 3,000-m depth, 77,900 sq nautical miles.

Area to 200 nautical miles, 163,900 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, Ti. Known, none. Onshore source deposits, Fe, Sn, Ti, m, z.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports -----	7.3	1.0	1968	0	0	1968
Exports -----	0	0	1968	0	0	1968

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	NA	NA	NA	NA	NA	NA

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	<sup>1</sup> >106	0	<sup>1</sup> >106	<sup>1</sup> >3	0	<sup>1</sup> >3

<sup>1</sup> Estimated.

## 3B. Potential resources (ultimate recoverable resources):

Category	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
-----	IV	IV	IV	III	V	III

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore		Total			
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
0	3	0	3	0	0	6	6

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

At least seven concessions granted to three companies and two consortia. (two companies and one consortium are American). Concessions are partly onshore but all of offshore portion is within 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
	Amount -----	NA	NA	\$2.7 million	NA
Percent -----	NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper -----	400	367	1969	540	493	1969
Nickel -----	3	3	1969	0	0	1969
Manganese -----	NA	NA	1968	NA	NA	1968
Cobalt -----	NA	NA	1968	NA	NA	1968

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper -----	140	130	1970
Nickel -----	0	0	1969
Manganese -----	0	0	1969
Cobalt -----	0	0	1969

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[S= Sparse; NI= No information]

	0-50 miles	50-200 miles	200-400 miles
	NI	S	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## NEPAL

Category: Landlocked.  
 Bordering water body: None.  
 Coastal length: None.  
 Shelf area to 200-m depth: None.  
 Margin: None.  
 Geology: Sedimentary/crystalline.  
 Coastal and offshore placers: None.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	10.9	1.5	1969	NA	NA	1970
Exports.....	0	0	1970	NA	NA	1970

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	-	0	0	-	0
1961.....	0	-	0	0	-	0
1962.....	0	-	0	0	-	0
1963.....	0	-	0	0	-	0
1964.....	0	-	0	0	-	0
1965.....	0	-	0	0	-	0
1966.....	0	-	0	0	-	0
1967.....	0	-	0	0	-	0
1968.....	0	-	0	0	-	0
1969.....	0	-	0	0	-	0
1970.....	0	-	0	0	-	0
1971.....	0	-	0	0	-	0

## Natural gas (gross production)

	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	1960.....	0	-	0	0	-	0
1961.....	0	-	0	0	-	0
1962.....	0	-	0	0	-	0
1963.....	0	-	0	0	-	0
1964.....	0	-	0	0	-	0
1965.....	0	-	0	0	-	0
1966.....	0	-	0	0	-	0
1967.....	0	-	0	0	-	0
1968.....	0	-	0	0	-	0
1969.....	0	-	0	0	-	0
1970.....	0	-	0	0	-	0
1971.....	0	-	0	0	-	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	-	0	0	-	0

## Natural gas

	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	Through 1971....	0	-	0	0	-

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	-	0	0	-	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	-	0	0	-	0

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	V	-	V	V	-	V

## 4A. Number of production and exploratory wells completed through 1971:

	Onshore		Offshore		Total			
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
	0	0	-	-	-	0	0	0

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Landlocked.

## 6. Investment in oil and gas exploration and exploitation in 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	NA	NA	NA	NA
Percent.....	NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	NA	NA	1971	NA	NA	1971
Nickel.....	NA	NA	1971	NA	NA	1971
Manganese.....	NA	NA	1971	NA	NA	1971
Cobalt.....	NA	NA	1971	NA	NA	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	NA	NA	1971
Nickel.....	NA	NA	1971
Manganese.....	NA	NA	1971
Cobalt.....	NA	NA	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

	0-50 miles	50-200 miles	200-400 miles
	-	-	-

## 10. Instances of licensing for offshore exploration for hard minerals:

Landlocked.

## NETHERLANDS

Category: Shelf locked.

Bordering water body: North Sea.

Coastal length: 198 nautical miles.

Shelf area to 200-m depth: 24,700 sq nautical miles.

Margin: Area to 3,000-m depth, 24,700 sq nautical miles.

Area to 200 nautical miles, 24,700 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	503.7	69.0	1971	0	0	1971
Exports.....	237.4	34.2	1971	635.7	18.0	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	13.2	0	13.2	1.9	0	1.9
1961.....	13.8	0	13.8	2.0	0	2.0
1962.....	15.1	0	15.1	2.2	0	2.2
1963.....	15.1	0	15.1	2.2	0	2.2
1964.....	15.7	0	15.7	2.3	0	2.3
1965.....	16.4	0	16.4	2.4	0	2.4
1966.....	16.4	0	16.4	2.4	0	2.4
1967.....	15.7	0	15.7	2.3	0	2.3
1968.....	14.5	0	14.5	2.1	0	2.1
1969.....	13.8	0	13.8	2.0	0	2.0
1970.....	13.2	0	13.2	1.9	0	1.9
1971.....	12.0	0	12.0	1.7	0	1.7

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	14.1	0	14.1	0.4	0	0.4
1961.....	17.7	0	17.7	.5	0	.5
1962.....	17.7	0	17.7	.5	0	.5
1963.....	21.2	0	21.2	.6	0	.6
1964.....	31.8	0	31.8	.9	0	.9
1965.....	63.6	0	63.6	1.8	0	1.8
1966.....	127.1	0	127.1	3.6	0	3.6
1967.....	279.0	0	279.0	7.9	0	7.9
1968.....	568.6	0	568.6	16.1	0	16.1
1969.....	893.5	0	893.5	25.3	0	25.3
1970.....	1,179.6	0	1,179.6	33.4	0	33.4
1971.....	1,631.6	Negl	1,631.6	46.2	Negl	46.2

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1943-71.....	260	0	260	37	0	37

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960-1971.....	4,846	Negl	4,846	137	Negl	137

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	260	0	260	37	0	37

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	83,000	NA	>83,000	2,350	NA	>2,350

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	IV	III	II	III	II

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
50	14	5	15	0	55	29	84

## 4B. Number of wells producing in 1971:

351 onshore and 10 (est) offshore; 107 SI onshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

14 concessions held by three companies and two consortia, all within 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	NA	NA	NA	0
Percent.....	NA	NA	NA	0

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	<sup>1</sup> 137,130	<sup>1</sup> 120,444	1969	<sup>1</sup> 69,950	<sup>1</sup> 63,475	1969
Nickel.....	<sup>1</sup> 7,910	<sup>1</sup> 7,180	1969	<sup>1</sup> 5,070	<sup>1</sup> 4,600	1969
Manganese.....	64,760	58,770	1969	32,604	29,578	1969
Cobalt.....	530	480	1969	74	67	1969

<sup>1</sup> Includes scrap.

## 8. Annual production of copper, nickel, manganese, and cobalt.

	Short tons	Metric tons	Year
Copper.....	0	0	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No licenses issued as of July 1972.

## NEW ZEALAND

Category: Open shelf.

Bordering water body: Pacific Ocean.

Coastal length: 2,770 nautical miles.

Shelf area to 200-m depth: 70,800 sq nautical miles.

Margin: Area to 3,000-m depth, 571,100 sq nautical miles.

Area to 200 nautical miles, 1,409,500 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, Fe.

Onshore source deposits, Ag, Au, Fe, Ti, m, z.

1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	30.0	4.1	1970	( <sup>1</sup> )	( <sup>1</sup> )	1971
Exports.....	.5	.1	1970	0	0	1971

<sup>1</sup> \$0.2 million.

2A. Annual production since 1960:

	Oil <sup>1</sup>					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	Negl	0	Negl	Negl	0	Negl
1961.....	Negl	0	Negl	Negl	0	Negl
1962.....	Negl	0	Negl	Negl	0	Negl
1963.....	0	0	0	0	0	0
1964.....	Negl	0	Negl	Negl	0	Negl
1965.....	Negl	0	Negl	Negl	0	Negl
1966.....	Negl	0	Negl	Negl	0	Negl
1967.....	Negl	0	Negl	Negl	0	Negl
1968.....	Negl	0	Negl	Negl	0	Negl
1969.....	Negl	0	Negl	Negl	0	Negl
1970.....	0.4	0	0.4	0.1	0	0.1
1971.....	.6	0	.6	.1	0	.1

## Natural gas (gross production)

	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	1960.....	Negl	0	Negl	Negl	0	Negl
1961.....	Negl	0	Negl	Negl	0	Negl
1962.....	Negl	0	Negl	Negl	0	Negl
1963.....	Negl	0	Negl	Negl	0	Negl
1964.....	Negl	0	Negl	Negl	0	Negl
1965.....	Negl	0	Negl	Negl	0	Negl
1966.....	Negl	0	Negl	Negl	0	Negl
1967.....	Negl	0	Negl	Negl	0	Negl
1968.....	Negl	0	Negl	Negl	0	Negl
1969.....	Negl	SI	Negl	Negl	SI	Negl
1970.....	3.8	SI	3.8	0.1	SI	0.1
1971.....	10.6	SI	10.6	.3	SI	.3

<sup>1</sup> Mostly condensate.

2B. Cumulative production:

	Oil <sup>1</sup>					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1933-71.....	1.4	0	1.4	0.2	0	0.2

## Natural gas

	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	1955-71.....	>14.4	SI	>14.4	>.4	SI	>.4

<sup>1</sup> Approximately 80 percent is condensate.

3A. Proved recoverable reserves:

As of 1971.....	Oil <sup>1</sup>					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	31	194	225	4	24	28

<sup>1</sup> Condensate.

3A. Proved recoverable reserves—Continued:

As of 1971.....	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	0.5	5,999.5	6,000	0.01	170	170

3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	V	V	V	IV	III	III

4A. Number of production and exploratory wells completed in 1971:

	Onshore		Offshore			Total		
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
	0	9	0	0	0	0	9	9

4B. Number of wells producing in 1971:

Five onshore and three SI offshore.

5. Instances of licensing for offshore exploration for oil and gas:

Seventeen licenses have been granted. They total 387,517 sq miles. Large portions cover submarine plateaus and rises between 500 and 1,000 m deep.

6. Investment in oil and gas exploration and exploitation, 1968-71:<sup>1</sup>

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	\$4 million	\$6 million	( <sup>2</sup> )	( <sup>2</sup> )
Percent.....	13.3	20	( <sup>2</sup> )	( <sup>2</sup> )

<sup>1</sup> Figures are very rough estimates and exclude the Kapuni works.

<sup>2</sup> \$20 million or 66.7 percent; no breakdown available.

7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	12,401	11,250	1969	5,719	5,188	1969
Nickel.....	306	278	1969	8	7	1969
Manganese.....	886	804	1969	0	0	1971
Cobalt.....	0	0	1971	0	0	1971

8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	74	67	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[S = Sparse; NI = No information]

	0-50 miles	50-200 miles	200-400 miles
	NI	NI	S

10. Instances of licensing for offshore exploration for hard minerals:

No information.

## NICARAGUA

Category: Open shelf.

Bordering water bodies: Caribbean Sea, Pacific Ocean.

Coastal length: 445 nautical miles.

Shelf area to 200-m depth: 21,200 sq nautical miles.

Margin: Area to 3,000-m depth, 37,400 sq nautical miles. Area to 200 nautical miles, 46,600 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, Au.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	3.4	0.5	1971	0	0	1971
Exports.....	Negl	Negl	1971	0	0	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971.....	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	V	IV	IV	V	IV	IV

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
0	0	0	3	0	0	3	3

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Four concessions granted to one company in Pacific and 18 concessions granted to six companies in Caribbean, one of which extends beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	0	<sup>1</sup> \$90-\$135 million	( <sup>2</sup> )	( <sup>2</sup> )
Percent.....	0	<sup>1</sup> 90	( <sup>2</sup> )	( <sup>2</sup> )

<sup>1</sup> Estimated.

<sup>2</sup> Estimated \$10-\$15 million or 10 percent; no breakdown available.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	Negl	Negl	1971	<sup>1</sup> 5,400	<sup>1</sup> 4,900	1971
Nickel.....	NA	NA	1971	NA	NA	1971
Manganese.....	NA	NA	1971	NA	NA	1971
Cobalt.....	NA	NA	1971	NA	NA	1971

<sup>1</sup> Estimated.

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	4,000	3,630	1971
Nickel.....	NA	NA	1968
Manganese.....	NA	NA	1968
Cobalt.....	NA	NA	1968

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI=No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## NIGERIA

Category: Open shelf.

Bordering water body: Atlantic Ocean.

Coastal length: 415 nautical miles.

Shelf area to 200-m depth: 13,500 sq nautical miles.

Margin: Area to 3,000-m depth, 37,700 sq nautical miles.

Area to 200 nautical miles, 61,500 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, d.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	14.6	2.0	1971	NA	NA	1971
Exports.....	547.6	74.0	1971	0	0	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	NA	NA	6.5	NA	NA	0.9
1961.....	NA	NA	16.8	NA	NA	2.3
1962.....	NA	NA	24.6	NA	NA	3.3
1963.....	NA	NA	27.6	NA	NA	3.7
1964.....	NA	NA	44.0	NA	NA	5.9
1965.....	NA	NA	99.3	NA	NA	13.4
1966.....	NA	NA	152.4	NA	NA	20.6
1967.....	NA	NA	116.5	NA	NA	15.7
1968.....	NA	NA	51.9	NA	NA	7.9
1969.....	NA	NA	197.2	NA	NA	26.6
1970.....	NA	NA	395.8	NA	NA	53.4
1971.....	423.8	134.6	558.4	57.2	18.2	75.4

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	NA	NA	4.9	NA	NA	0.1
1961.....	NA	NA	13.8	NA	NA	.4
1962.....	NA	NA	18.2	NA	NA	.5
1963.....	NA	NA	22.1	NA	NA	.6
1964.....	NA	NA	35.3	NA	NA	1.0
1965.....	NA	NA	79.4	NA	NA	2.2
1966.....	NA	NA	102.7	NA	NA	2.9
1967.....	NA	NA	91.5	NA	NA	2.6
1968.....	NA	NA	51.6	NA	NA	1.5
1969.....	NA	NA	145.7	NA	NA	4.1
1970.....	NA	NA	285.8	NA	NA	8.1
1971.....	NA	NA	438.0	NA	NA	12.4

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1958-71.....	1,316	381	1,697	178	51	229

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1958-71.....	1 900	1 400	1,300	1 26	1 11	37

<sup>1</sup> Estimated.

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	9,846	1,834	11,680	1,331	248	1,579

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	1 30,000	1 10,000	40,000	1 840	1 280	1,120

<sup>1</sup> Estimated.

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	III	III	III	III	III	III

## 4A. Number of production and exploratory wells completed in 1971:

Category.....	Onshore		Offshore		Total			
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, < 200 m	Explor-atory, > 200 m	Pro-duction	Explor-atory	All wells
	NA	40	NA	15	0	172	55	227

## 4B. Number of wells producing in 1971:

430 onshore and 155 offshore; 156 SI onshore and 11 SI offshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

At present, nine foreign groups hold either oil mining leases or oil prospecting licenses, all within the 200-m isobath. As of 1972, no new concessions will be granted, and a government-owned company will hold all new concessions and operate them under production sharing contracts.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	0	<sup>1</sup> \$760 million.	( <sup>2</sup> )	( <sup>2</sup> )
Percent.....	0	38	NA	NA

<sup>1</sup> Estimated.

<sup>2</sup> Estimated \$1,240 million; no breakdown available.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	Negl	Negl	1971	0	0	1971
Nickel.....	Negl	Negl	1971	0	0	1971
Manganese.....	Negl	Negl	1971	0	0	1971
Cobalt.....	Negl	Negl	1971	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI=No information]

	0-50 miles	50-200 miles	200-400 miles
	NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## NORWAY

Category: Open shelf.

Bordering water body: Atlantic Ocean.

Coastal length: 1,650 nautical miles.

Shelf area to 200-m depth; 30,000 sq nautical miles.

Margin: Area to 3,000-m depth, 463,700 sq nautical miles.

Area to 200 nautical miles, 590,500 sq nautical miles.

Geology: Coastal onshore, crystalline. Offshore, crystalline/sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, Fe, Ti.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	40.9	5.6	1971	0	0	1968
Exports.....	2.2	.3	1971	0	0	1968

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	SI	SI	0	SI	SI
1970.....	0	SI	SI	0	SI	SI
1971 <sup>1</sup> .....	0	2.0	2.0	0	0.3	0.3

Natural gas (gross production)<sup>2</sup>

	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	SI	SI	0	SI	SI

<sup>1</sup> Production began July 1971.

<sup>2</sup> Frigg field (offshore) expected to produce 657 billion cubic feet of gas per year.

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
In 1971.....	0	2.0	2.0	0	0.3	0.3

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	SI	SI	0	SI	SI

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	7,000	7,000	0	960	960

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	10,000	10,000	0	280	280

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	0	III	III	0	III	III

## 4A. Number of production and exploratory wells completed in 1971:

Pro-duction	Explor-atory	Onshore			Offshore			All wells
		Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	Total	
0	0	1	13	0	1	13	14	

## 4B. Number of wells producing in 1971:

Four and three SI, all offshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

In 1965 and 1969, 35 licenses were granted to nine oil groups. More licenses will be granted in late 1972. All licenses are within 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	( <sup>1</sup> ) NA	( <sup>1</sup> ) NA	( <sup>1</sup> ) NA	NA
Percent.....	NA	NA	NA	NA

<sup>1</sup> Estimated >\$225 million; no breakdown available.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	22,800	20,700	1971	35,700	32,400	1971
Nickel.....	110,900	100,600	1971	44,200	40,100	1971
Manganese.....	691,000	626,700	1969	0	0	1971
Cobalt.....	0	0	1971	880	800	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	18,700	17,000	1971
Nickel.....	400	360	1970
Manganese.....	0	0	1971
Cobalt.....	958	869	1971

<sup>1</sup> Estimated.

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

	[NI = No information]		
	0-50 miles	50-200 miles	200-400 miles
	NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

Two licenses granted; one has expired without being used and the other expires at end of 1972.

## OMAN

Category: Open shelf.

Bordering water body: Indian Ocean.

Coastal length: 1,005 nautical miles.

Shelf area to 200-m depth: 17,800 sq nautical miles.

Margin: Area to 3,000-m depth, 44,500 sq nautical miles.

Area to 200 nautical miles, 163,800 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	1 3.1	1 0.4	1970	0	0	1971
Exports.....	2 121.2	2 16.4	1970	0	0	1971

1 Products.  
2 Crude.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	23.0	0	23.0	3.1	0	3.1
1968.....	87.9	0	87.9	11.9	0	11.9
1969.....	119.7	0	119.7	16.2	0	16.2
1970.....	121.7	0	121.7	16.5	0	16.5
1971.....	104.7	0	104.7	14.2	0	14.2

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967 <sup>1</sup> .....	17.3	0	17.3	.5	0	.5
1968 <sup>1</sup> .....	65.9	0	65.9	1.9	0	1.9
1969 <sup>1</sup> .....	89.8	0	89.8	2.5	0	2.5
1970 <sup>1</sup> .....	91.3	0	91.3	2.6	0	2.6
1971 <sup>1</sup> .....	78.5	0	78.5	2.2	0	2.2

<sup>1</sup> Calculated from gas/oil ratio of 750 ft<sup>3</sup>/bbl.

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1967-71.....	457	0	457	62	0	62

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1967-71.....	342.8	0	342.8	9.7	0	9.7

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	NA	NA	5,200	NA	NA	700

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	NA	NA	2,000	NA	NA	57

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	III	IV	III	III	IV	III

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
44	NA	0	NA	0	44	11	55

## 4B. Number of wells producing in 1971:

74 and 33 SI, all onshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

German consortium holds one concession in part or in whole beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	NA	NA	NA	NA
Percent.....	NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	0	0	1971	0	0	1971
Nickel.....	0	0	1971	0	0	1971
Manganese.....	0	0	1971	0	0	1971
Cobalt.....	0	0	1971	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## PAKISTAN

Category: Open shelf.

Bordering water body: Indian Ocean.

Coastal length: 440 nautical miles.

Shelf area to 200-m depth: 17,000 sq nautical miles.

Margin: Area to 3,000-m depth, 61,400 sq nautical miles.

Area to 200 nautical miles, 92,900 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	34.4	4.7	1970	0	0	1971
Exports.....	2.3	1.3	1970	0	0	1971

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	2.5	0	2.5	0.3	0	0.3
1961.....	2.8	0	2.8	.4	0	.4
1962.....	3.1	0	3.1	.4	0	.4
1963.....	3.5	0	3.5	.5	0	.5
1964.....	3.7	0	3.7	.5	0	.5
1965.....	3.9	0	3.9	.5	0	.5
1966.....	3.9	0	3.9	.5	0	.5
1967.....	3.7	0	3.7	.5	0	.5
1968.....	3.7	0	3.7	.5	0	.5
1969.....	3.9	0	3.9	.5	0	.5
1970.....	3.9	0	3.9	.5	0	.5
1971.....	3.4	0	3.4	.5	0	.5

  

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	25.8	0	25.8	0.7	0	0.7
1961.....	32.0	0	32.0	.9	0	.9
1962.....	38.8	0	38.8	1.1	0	1.1
1963.....	45.4	0	45.4	1.3	0	1.3
1964.....	54.9	0	54.9	1.6	0	1.6
1965.....	62.9	0	62.9	1.8	0	1.8
1966.....	74.1	0	74.1	2.1	0	2.1
1967.....	80.0	0	80.0	2.3	0	2.3
1968.....	84.8	0	84.8	2.4	0	2.4
1969.....	100.1	0	100.1	2.8	0	2.8
1970.....	127.7	0	127.7	3.6	0	3.6
1971.....	118.5	0	118.5	3.4	0	3.4

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1947-71.....	73	0	73	10	0	10

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1955-71.....	1,122	0	1,122	32	0	32

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	38	0	38	5	0	5

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	19,500	0	19,500	550	0	550

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	III	IV	III	III	IV	III

## 4A. Number of production and exploratory wells completed in 1971:

Category.....	Onshore		Offshore		Total		
	Pro-duction	Explor-atory	Pro-duction	Explor-atory	Pro-duction	Explor-atory	All wells
	NA	4	0	0	0	NA	4
							>4

## 4B. Number of wells producing in 1971:

15, all onshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

Three companies have offshore exploration licenses, all within 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	NA	NA	NA	NA
Percent.....	NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	NA	NA	1971	Negl	Negl	1971
Nickel.....	NA	NA	1971	0	0	1971
Manganese.....	0	0	1971	0	0	1971
Cobalt.....	0	0	1971	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1971
Nickel.....	0	0	1971
Manganese.....	100	90	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## PANAMA

Category: Open shelf.

Bordering water bodies: Pacific Ocean, Caribbean Sea.

Coastal length: 979 nautical miles.

Shelf area to 200-m depth: 16,700 sq nautical miles.

Margin: Area to 3,000-m depth, 40,300 sq nautical miles. Area to 200 nautical miles, 89,400 sq nautical miles.

Geology: Coastal onshore, sedimentary/crystalline. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, Au. Onshore source deposits, Au.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	26.7	3.7	1970	NA	NA	1970
Exports.....	16.1	1.8	1970	NA	NA	1970

<sup>1</sup> Products; estimated.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971.....	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	V	IV	IV	V	IV	IV

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
0	1	0	0	0	0	1	1

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Eight concessions granted to three companies in Pacific, one extending beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	NA	NA	NA	NA
Percent.....	NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	NA	NA	1969	NA	NA	1969
Nickel.....	NA	NA	1969	NA	NA	1969
Manganese.....	NA	NA	1969	NA	NA	1969
Cobalt.....	NA	NA	1969	NA	NA	1969

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	NA	NA	1969
Nickel.....	NA	NA	1969
Manganese.....	NA	NA	1969
Cobalt.....	NA	NA	1969

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[S= Sparse; NI= No information]		
0-50 miles	50-200 miles	200-400 miles
S	S	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## PERU

Category: Open shelf.

Bordering water body: Pacific Ocean.

Coastal length: 1,258 nautical miles.

Shelf area to 200-m depth: 24,100 sq nautical miles.

Margin: Area to 3,000-m depth, 48,900 sq nautical miles. Area to 200 nautical miles, 229,400 sq nautical miles.

Geology: Coastal onshore, crystalline/sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, Fe.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	9.8	1.3	1970	0	0	1971
Exports.....	1.9	.3	1970	0	0	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	19.1	0.2	19.3	2.5	Negl	2.6
1961.....	19.0	.3	19.3	2.5	Negl	2.6
1962.....	20.6	.5	21.1	2.7	0.1	2.8
1963.....	21.0	.5	21.5	2.8	.1	2.9
1964.....	22.5	.6	23.1	3.0	.1	3.1
1965.....	21.9	1.1	23.0	3.0	.1	3.1
1966.....	21.3	1.8	23.1	2.9	.2	3.1
1967.....	21.0	4.8	25.8	2.8	.6	3.4
1968.....	19.3	7.8	27.1	2.6	1.0	3.6
1969.....	17.7	8.6	26.3	2.4	1.1	3.5
1970.....	16.3	10.0	26.3	2.2	1.3	3.5
1971.....	14.7	7.8	22.5	2.0	1.0	3.0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	43.8	0.8	44.6	1.2	Negl	1.3
1961.....	44.4	1.2	45.6	1.3	Negl	1.3
1962.....	46.9	1.1	48.0	1.3	Negl	1.4
1963.....	49.8	1.1	50.9	1.4	Negl	1.4
1964.....	57.3	1.3	58.6	1.6	Negl	1.7
1965.....	63.4	1.9	65.3	1.8	Negl	1.8
1966.....	64.1	2.2	66.3	1.8	Negl	1.8
1967.....	64.1	4.2	68.3	1.8	0.1	1.9
1968.....	65.7	10.1	75.8	1.9	.2	2.1
1969.....	61.8	15.4	77.2	1.7	.4	2.1
1970.....	51.2	23.6	74.8	1.4	.7	2.1
1971.....	44.3	22.9	67.2	1.3	.6	1.9

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1896-1971.....	795	49	844	106	6	112

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1896-1971.....	1,544	93	1,637	43	3	46

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	NA	NA	400	NA	NA	50

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	NA	NA	2,500	NA	NA	70

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	III	IV	III	III	IV	III

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
<sup>1</sup> 71	<sup>2</sup> 23	<sup>2</sup> 29	( <sup>2</sup> )	( <sup>2</sup> )	100	26	126

<sup>1</sup> Estimated.

<sup>2</sup> Total offshore exploratory estimated to be 3.

## 4B. Number of wells producing in 1971:

2,658 onshore (est) and 233 offshore (est); 5,859 SI onshore (est) and 23 SI offshore (est).

## 5. Instances of licensing for offshore exploration for oil and gas:

One company has held concessions since 1959. In 1971, concession system abolished and one company granted exploration-production contract with national petroleum company. Concessions in part extend beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation in 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	0	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
Percent.....	0	NA	NA	NA

<sup>1</sup> \$120-\$150 million; no breakdown available.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	0	0	1971	213,846	193,998	1971
Nickel.....	53	48	1968	0	0	1968
Manganese.....	0	0	1971	0	0	1971
Cobalt.....	0	0	1968	0	0	1968

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	234,663	212,883	1971
Nickel.....	0	0	1971
Manganese.....	8,601	7,803	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[S = Sparse; NI = No information]

	0-50 miles *	50-200 miles	200-400 miles
	NI	NI	S

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## PHILIPPINES

Category: Archipelago.

Bordering water bodies: Pacific Ocean, South China Sea.

Coastal length: 6,997 nautical miles.

Shelf area to 200-m depth: 52,000 sq nautical miles.

Margin: Area to 3,000-m depth, 65,000 (est) sq nautical miles. Area to 200 nautical miles, 551,400 sq nautical miles.

Geology: Coastal onshore, crystalline/sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, Au, Fe, Sn. Onshore source deposits, Ag, Au, Fe, cr.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	65.7	9.0	1971	NA	NA	1971
Exports.....	18.0	1.1	1971	NA	NA	1971

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	IV	III	IV	III	III

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
0	15	0	2	0	0	17	17

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Many offshore concessions have been granted, some extending beyond 200-m depth. There is strong trend toward replacement of concessions by service contracts linked to joint venture with government corporation.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	(1)	(1)	(1)	(1)
Percent.....	NA	NA	NA	NA

<sup>1</sup> \$25 million; no breakdown available.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	6,845	6,212	1969	233,546	211,870	1971
Nickel.....	26	24	1969	228	207	1971
Manganese.....	4,861	4,410	1971	5,028	4,561	1971
Cobalt.....	0	0	1971	NA	NA	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	192,298	174,450	1971
Nickel.....	245	222	1971
Manganese.....	5,658	5,133	1971
Cobalt.....	NA	NA	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[S = Sparse; NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	S	S

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## POLAND

Category: Shelf locked.

Bordering water body: Baltic Sea.

Coastal length: 241 nautical miles.

Shelf area to 200-m depth: 8,300 sq nautical miles.

Margin: Area to 3,000-m depth, 8,300 sq nautical miles.

Area to 200 nautical miles, 8,300 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	57.7	7.9	1971	53	1.5	1971
Exports.....	0	0	1971	0	0	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	1.5	0	1.5	0.2	0	0.2
1961.....	1.5	0	1.5	.2	0	.2
1962.....	1.5	0	1.5	.2	0	.2
1963.....	1.6	0	1.6	.2	0	.2
1964.....	2.1	0	2.1	.3	0	.3
1965.....	2.5	0	2.5	.3	0	.3
1966.....	3.0	0	3.0	.4	0	.4
1967.....	3.3	0	3.3	.5	0	.5
1968.....	3.5	0	3.5	.5	0	.5
1969.....	3.3	0	3.3	.4	0	.4
1970.....	3.1	0	3.1	.4	0	.4
1971.....	3.0	0	3.0	.4	0	.4

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	20.5	0	20.5	0.6	0	0.6
1961.....	29.9	0	29.9	.8	0	.8
1962.....	29.5	0	29.5	.8	0	.8
1963.....	36.7	0	36.7	1.0	0	1.0
1964.....	43.5	0	43.5	1.2	0	1.2
1965.....	48.6	0	48.6	1.4	0	1.4
1966.....	48.6	0	48.6	1.4	0	1.4
1967.....	55.4	0	55.4	1.6	0	1.6
1968.....	90.3	0	90.3	2.6	0	2.6
1969.....	137.7	0	137.7	3.9	0	3.9
1970.....	183.6	0	183.6	5.2	0	5.2
1971.....	190.7	0	190.7	5.4	0	5.4

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1874-1971.....	322	0	322	43	0	43

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1874-1971.....	<sup>1</sup> 1,573	0	<sup>1</sup> 1,573	<sup>1</sup> 45	0	<sup>1</sup> 45

<sup>1</sup> Estimated.

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1969.....	37	0	37	5	0	5

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	5,000	0	5,000	140	0	140

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	V	IV	IV	V	IV

## 4A. Number of production and exploratory wells completed in 1971:

	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
	NA	NA	NA	NA	NA	NA	216

## 4B. Number of wells producing in 1971:

Not available.

## 5. Instances of licensing for offshore exploration for oil and gas:

No information.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	NA	NA	NA	NA
Percent.....	NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	36,994	33,560	1971	32,063	29,087	1971
Nickel.....	NA	NA	1971	NA	NA	1971
Manganese.....	434,136	393,842	1969	NA	NA	1971
Cobalt.....	NA	NA	1971	NA	NA	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	79,000	71,000	1971
Nickel.....	1,650	1,500	1970
Manganese.....	0	0	1970
Cobalt.....	NA	NA	1970

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

	[M = Moderate]		
	0-50 miles	50-200 miles	200-400 miles
	M	M	M

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## PORTUGAL

Category: Open shelf.

Bordering water body: Atlantic Ocean.

Coastal length: 743 nautical miles.

Shelf area to 200-m depth: 11,400 sq nautical miles.

Margin: Area to 3,000-m depth, 44,800 sq nautical miles. Area to 200 nautical miles, 517,400 sq nautical miles.

Geology: Coastal onshore, sedimentary/crystalline. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, Ag, Au, Fe.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports .....	39.0	5.3	1970	0	0	1968
Exports .....	13.5	1.5	1970	0	0	1968

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 .....	0	0	0	0	0	0
1961 .....	0	0	0	0	0	0
1962 .....	0	0	0	0	0	0
1963 .....	0	0	0	0	0	0
1964 .....	0	0	0	0	0	0
1965 .....	0	0	0	0	0	0
1966 .....	0	0	0	0	0	0
1967 .....	0	0	0	0	0	0
1968 .....	0	0	0	0	0	0
1969 .....	0	0	0	0	0	0
1970 .....	0	0	0	0	0	0
1971 .....	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 .....	0	0	0	0	0	0
1961 .....	0	0	0	0	0	0
1962 .....	0	0	0	0	0	0
1963 .....	0	0	0	0	0	0
1964 .....	0	0	0	0	0	0
1965 .....	0	0	0	0	0	0
1966 .....	0	0	0	0	0	0
1967 .....	0	0	0	0	0	0
1968 .....	0	0	0	0	0	0
1969 .....	0	0	0	0	0	0
1970 .....	0	0	0	0	0	0
1971 .....	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 .....	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 .....	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 .....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 .....	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category .....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	VI	V	V	V	V	V

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
0	0	0	0	0	0	0	0

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Government presently negotiating with several companies for prospecting concessions. Concessions limited to depths of less than 200 m although exceptions may be granted.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount .....	NA	NA	NA	NA
Percent .....	NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper .....	15,604	14,156	1969	14,826	13,454	1969
Nickel .....	430	390	1969	45	41	1968
Manganese .....	660	599	1968	6,388	5,795	1968
Cobalt .....	0	0	1968	0	0	1968

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper <sup>1</sup> .....	6,650	6,040	1971
Nickel .....	0	0	1971
Manganese .....	5,237	4,751	1971
Cobalt .....	0	0	1971

<sup>1</sup> Production includes copper recovered from cupriferous pyrites.

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## QATAR

Category: Shelf locked.

Bordering water body: Persian Gulf.

Coastal length: 204 nautical miles.

Shelf area to 200-m depth: 7,000 sq nautical miles.

Margin: Area to 3,000-m depth, 7,000 sq nautical miles.

Area to 200 nautical miles, 7,000 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	<sup>1</sup> 0.6	<sup>1</sup> 0.1	1970	NA	NA	1970
Exports.....	<sup>2</sup> 131.8	<sup>2</sup> 17.1	1970	0	0	1971

<sup>1</sup> Products.

<sup>2</sup> Crude.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	63.1	0	63.1	8.2	0	8.2
1961.....	64.4	0	64.4	8.4	0	8.4
1962.....	67.9	0	67.9	8.8	0	8.8
1963.....	70.1	0	70.1	9.1	0	9.1
1964.....	NA	NA	77.9	NA	NA	10.1
1965.....	NA	NA	84.2	NA	NA	10.9
1966.....	NA	NA	105.9	NA	NA	13.7
1967.....	NA	NA	118.4	NA	NA	15.4
1968.....	NA	NA	124.3	NA	NA	16.1
1969.....	NA	NA	129.7	NA	NA	16.8
1970.....	NA	NA	132.5	NA	NA	17.2
1971.....	75.0	82.0	157.0	9.7	10.7	20.4

## Natural gas (gross production)

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	35.5	0	35.5	1.0	0	1.0
1961.....	36.2	0	36.2	1.0	0	1.0
1962.....	38.2	0	38.2	1.1	0	1.1
1963.....	39.4	0	39.4	1.1	0	1.1
1964.....	NA	NA	43.8	NA	NA	1.2
1965.....	NA	NA	47.4	NA	NA	1.3
1966.....	NA	NA	59.6	NA	NA	1.7
1967.....	NA	NA	66.6	NA	NA	1.9
1968.....	NA	NA	69.9	NA	NA	2.0
1969.....	NA	NA	73.0	NA	NA	2.1
1970.....	NA	NA	74.5	NA	NA	2.1
1971.....	42.0	46.0	88.0	1.2	1.3	2.5

<sup>1</sup> Calculated from gas/oil ratio 750:1 less 25 percent reinjected.

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1949-71.....	1,232	357	1,589	160	46	206

## Natural gas (gross production)

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1949-71.....	693	200	893	20	5	25

## 3A. Proved recoverable reserves:

As of 1971	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971	NA	NA	6,000	NA	NA	780

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971	NA	NA	8,000	NA	NA	230

## 3B. Potential resources (ultimate recoverable resources):

Category	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	III	III	III	III	III	III
Category	III	III	III	III	III	III

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
0	1	0	4	0	0	5	5

## 4B. Number of wells producing in 1971:

54 onshore and 26 offshore; four SI onshore and two SI offshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

Two companies hold concessions, all within 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	NA	NA	NA	NA
Percent.....	NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	0	0	1971	0	0	1971
Nickel.....	0	0	1971	0	0	1971
Manganese.....	0	0	1971	0	0	1971
Cobalt.....	0	0	1971	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## ROMANIA

Category: Open shelf.

Bordering water body: Black Sea.

Coastal length: 113 nautical miles.

Shelf area to 200-m depth: 7,100 sq nautical miles.

Margin: Area to 3,000-m depth, 9,300 sq nautical miles.

Area to 200 nautical miles, 9,300 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	18.3	2.5	1970	0	0	1970
Exports.....	39.4	5.3	1970	7.3	.2	1970

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	85.7	0	85.7	11.5	0	11.5
1961.....	86.5	0	86.5	11.6	0	11.6
1962.....	87.9	0	87.9	11.8	0	11.8
1963.....	90.9	0	90.9	12.2	0	12.2
1964.....	92.4	0	92.4	12.4	0	12.4
1965.....	93.9	0	93.9	12.6	0	12.6
1966.....	95.4	0	95.4	12.8	0	12.8
1967.....	98.4	0	98.4	13.2	0	13.2
1968.....	99.1	0	99.1	13.3	0	13.3
1969.....	98.4	0	98.4	13.2	0	13.2
1970.....	99.9	0	99.9	13.4	0	13.4
1971.....	100.7	0	100.7	13.5	0	13.5

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	243.3	0	243.3	6.9	0	6.9
1961.....	268.6	0	268.6	7.6	0	7.6
1962.....	329.8	0	329.8	9.3	0	9.3
1963.....	376.9	0	376.9	10.7	0	10.7
1964.....	426.1	0	426.1	12.1	0	12.1
1965.....	480.2	0	480.2	13.6	0	13.6
1966.....	497.2	0	497.2	14.1	0	14.1
1967.....	559.5	0	559.5	15.8	0	15.8
1968.....	774.9	0	774.9	21.9	0	21.9
1969.....	850.6	0	850.6	24.1	0	24.1
1970.....	912.5	0	912.5	25.8	0	25.8
1971.....	943.0	0	943.0	26.7	0	26.7

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1857-1971.....	2,932	0	2,932	393	0	393

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1857-1971.....	7,384	0	7,384	209	0	209

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	867	0	867	116	0	116

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	9,771	0	9,771	277	0	277

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	IV	IV	III	IV	III

4A. Number of production and exploratory wells completed in 1971:<sup>1</sup>

	Onshore		Offshore		Total			
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
	NA	NA	NA	NA	NA	NA	NA	NA

<sup>1</sup> 250 (est) production wells and 70 (est) exploratory wells completed in 1969, all onshore.

## 4B. Number of wells producing in 1971:

Not available.

## 5. Instances of licensing for offshore exploration for oil and gas:

No information.

## 6. Investment in oil and gas exploration and exploitation in 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	0	0	0	NA
Percent.....	0	0	0	100

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	17,260	15,660	1969	3,291	2,986	1969
Nickel.....	400	363	1969	NA	NA	1969
Manganese.....	NA	NA	1969	53,000	48,100	1969
Cobalt.....	NA	NA	1969	NA	NA	1969

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	6,600	6,000	1970
Nickel.....	NA	NA	1970
Manganese <sup>1</sup> .....	139,950	127,000	1970
Cobalt.....	NA	NA	1970

<sup>1</sup> Estimated.

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## RWANDA

Category: Landlocked.

Bordering water body: None.

Coastal length: None.

Shelf area to 200-m depth: None.

Margin: None.

Geology: Crystalline.

Coastal and offshore placers: None.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Years
Imports -----	Negl	Negl	1968	NA	NA	1968
Exports -----	NA	NA	1968	NA	NA	1968

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	-----	0	0	-----	0
1961 -----	0	-----	0	0	-----	0
1962 -----	0	-----	0	0	-----	0
1963 -----	0	-----	0	0	-----	0
1964 -----	0	-----	0	0	-----	0
1965 -----	0	-----	0	0	-----	0
1966 -----	0	-----	0	0	-----	0
1967 -----	0	-----	0	0	-----	0
1968 -----	0	-----	0	0	-----	0
1969 -----	0	-----	0	0	-----	0
1970 -----	0	-----	0	0	-----	0
1971 -----	0	-----	0	0	-----	0

	Natural gas (gross production) <sup>1</sup>					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	-----	0	0	-----	0
1961 -----	0	-----	0	0	-----	0
1962 -----	0	-----	0	0	-----	0
1963 -----	0	-----	0	0	-----	0
1964 -----	0	-----	0	0	-----	0
1965 -----	0	-----	0	0	-----	0
1966 -----	0	-----	0	0	-----	0
1967 -----	0	-----	0	0	-----	0
1968 -----	0	-----	0	0	-----	0
1969 -----	0	-----	0	0	-----	0
1970 -----	0	-----	0	0	-----	0
1971 -----	0	-----	0	0	-----	0

<sup>1</sup> Small amount of methane dissolved in Lake Kiru (about 1,942,000 cubic feet, or 55,000 cubic meters, per year produced).

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	-----	0	0	-----	0

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	-----	0	0	-----	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	-----	0	0	-----	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	-----	0	0	-----	0

## 3B. Potential resources (ultimate recoverable resources):

Category	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	-----	0	-----	0	0	-----	0

## 4A. Number of production and exploratory wells completed through 1971:

	Onshore		Offshore		Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory	Pro-duction	Explor-atory
-----	0	0	-----	-----	0	0

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Landlocked.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies		By U.S. companies		By companies of other countries		By government	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
-----	0	-----	0	-----	0	-----	0	-----

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper -----	NA	NA	1969	0	0	1969
Nickel -----	NA	NA	1969	0	0	1969
Manganese -----	NA	NA	1969	0	0	1969
Cobalt -----	NA	NA	1969	0	0	1969

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper -----	0	0	1969
Nickel -----	0	0	1969
Manganese -----	0	0	1969
Cobalt -----	0	0	1969

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

	0-50 miles	50-200 miles	200-400 miles
-----	-----	-----	-----

## 10. Instances of licensing for offshore exploration for hard minerals:

Landlocked.

## SAUDI ARABIA

[Includes one-half of Kuwait-Saudi Arabia Neutral Zone]

Category: Open shelf.

Bordering water bodies: Red Sea, Persian Gulf.

Coastal length: 1,336 nautical miles.

Shelf area to 200-m depth: 22,700 sq nautical miles.

Margin: Area to 3,000-m depth, 54,600 sq nautical miles.

Area to 200 nautical miles, 54,900 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, Au, Fe.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	<sup>1</sup> 0.3	<sup>1</sup> Negl	1970	0	0	1970
Exports.....	1,328	181	1970	NA	NA	1970

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	<sup>1</sup> 393.0	<sup>1</sup> 63.5	481.4	<sup>1</sup> 53.6	<sup>1</sup> 8.7	65.6
1961.....	<sup>1</sup> 424.0	<sup>1</sup> 84.0	540.9	<sup>1</sup> 57.8	<sup>1</sup> 11.4	73.7
1962.....	<sup>1</sup> 451.0	<sup>1</sup> 104.0	599.7	<sup>1</sup> 61.5	<sup>1</sup> 14.2	81.7
1963.....	517.1	134.2	651.3	70.5	18.3	88.8
1964.....	522.9	170.8	693.7	71.3	23.3	94.6
1965.....	600.7	204.4	805.1	81.9	27.8	109.7
1966.....	676.2	274.0	950.2	92.2	37.3	129.5
1967.....	779.1	245.6	1,024.7	106.2	33.5	139.7
1968.....	871.2	242.9	1,114.1	118.7	33.1	151.8
1969.....	921.7	252.8	1,174.5	125.6	34.5	160.1
1970.....	1,000.8	385.0	1,385.8	136.4	52.5	188.9
1971.....	1,294.7	446.3	1,741.0	176.4	60.8	237.3

Natural gas (gross production)<sup>2</sup>

	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	1960.....	<sup>1</sup> 221.1	<sup>1</sup> 35.7	270.8	<sup>1</sup> 6.3	<sup>1</sup> 1.0	7.7
1961.....	<sup>1</sup> 238.5	<sup>1</sup> 47.3	304.3	<sup>1</sup> 6.6	<sup>1</sup> 1.3	8.6
1962.....	<sup>1</sup> 253.7	<sup>1</sup> 58.5	337.3	<sup>1</sup> 7.2	<sup>1</sup> 1.7	9.6
1963.....	290.9	75.5	366.4	8.3	2.1	10.4
1964.....	294.1	96.1	390.2	8.3	2.7	11.0
1965.....	337.9	115.0	452.9	9.6	3.2	12.8
1966.....	380.4	154.1	534.5	10.8	4.3	15.1
1967.....	438.2	138.2	576.4	12.4	3.9	16.3
1968.....	490.1	136.6	626.7	13.9	3.8	17.7
1969.....	518.5	142.2	660.7	14.7	4.0	18.7
1970.....	563.0	216.5	779.5	16.0	6.1	22.1
1971.....	728.3	251.0	979.3	20.6	7.1	27.7

<sup>1</sup> Saudi Arabia production only. Neutral Zone onshore-offshore breakdown not available.<sup>2</sup> Calculated from gas/oil ratio of 750:1 with 25 percent reinjected.

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1936-71.....	11,697	3,228	14,925	1,594	440	2,034

  

	Natural gas <sup>1</sup>					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1936-71.....	8,773	2,421	11,194	248	69	317

<sup>1</sup> Calculated from gas/oil ratio of 750:1.

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	95,188	62,287	157,475	12,972	8,488	21,460

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	<sup>1</sup> 45,000	<sup>1</sup> 11,000	56,000	<sup>1</sup> 1,300	<sup>1</sup> 300	1,600

<sup>1</sup> Estimated.

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	II	II	II	II	II	II

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore		Total			
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
50	7	6	0	0	56	7	63

## 4B. Number of wells producing in 1971:

489 (est) onshore and 176 (est) offshore; and 45 SI (est) onshore and 14 SI (est) offshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

One company holds concessions in Neutral Zone (half share with Kuwait); one company holds concession(s) in Persian Gulf; two consortia hold concessions in the Red Sea. All are within 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	( <sup>1</sup> ) NA	( <sup>1</sup> ) NA	( <sup>1</sup> ) NA	( <sup>1</sup> ) NA
Percent.....	( <sup>1</sup> ) NA	( <sup>1</sup> ) NA	( <sup>1</sup> ) NA	( <sup>1</sup> ) NA

<sup>1</sup> \$3,000 million estimated; no breakdown available.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	17	15	1971	0	0	1971
Nickel.....	0	0	1971	0	0	1971
Manganese.....	0	0	1971	0	0	1971
Cobalt.....	0	0	1971	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]

	0-50 miles	50-200 miles	200-400 miles
NI	NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## SENEGAL

Category: Open shelf.

Bordering water body: Atlantic Ocean.

Coastal length: 241 nautical miles.

Shelf area to 200-m depth: 9,200 sq nautical miles.

Margin: Area to 3,000-m depth, 23,700 sq nautical miles.

Area to 200 nautical miles, 60,000 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, Ti, z.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports -----	Negl	Negl	1970	0	0	1970
Exports -----	0	0	1971	0	0	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category -----	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	IV	IV	IV	IV	IV

## 4A. Number of production and exploratory wells completed in 1971:

Production	Onshore		Offshore		Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory	Pro-duction	Explor-atory
	0	0	0	5	0	5

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Four companies hold concessions, one of which extends beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
	Amount -----	0	>\$26 million	NA	NA
Percent -----	0	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper -----	192	174	1970	0	0	1971
Nickel -----	2	2	1970	0	0	1971
Manganese -----	1	1	1970	0	0	1971
Cobalt -----	0	0	1970	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper -----	0	0	1971
Nickel -----	0	0	1971
Manganese -----	0	0	1971
Cobalt -----	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI=No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## SIERRA LEONE

Category: Open shelf.

Bordering water body: Atlantic Ocean.

Coastal length: 219 nautical miles.

Shelf area to 200-m depth: 7,700 sq nautical miles.

Margin: Area to 3,000-m depth, 14,700 sq nautical miles.

Area to 200 nautical miles, 45,400 sq nautical miles.

Geology: Coastal onshore, crystalline/sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, Fe, Ti, m.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports -----	2.5	0.3	1970			
Exports -----	<sup>1</sup> Negl	<sup>1</sup> Negl	1970	Negl	Negl	1967 1969

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil			Natural gas (gross production)		
	Millions of 42-gal bbl	Millions of metric tons		Billions of cubic feet	Billions of cubic meters	
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	0	0	0	0	0

	Oil			Natural gas (gross production)		
	Millions of 42-gal bbl	Millions of metric tons		Billions of cubic feet	Billions of cubic meters	
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons		Billions of cubic feet	Billions of cubic meters	
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	0	0	0	0	0

	Oil			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons		Billions of cubic feet	Billions of cubic meters	
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons		Billions of cubic feet	Billions of cubic meters	
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category -----	Oil			Natural gas		
	V	V	V	V	V	V

## 4A. Number of production and exploratory wells completed through 1971:

Category -----	Onshore		Offshore		Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory	Pro-duction	Explor-atory
	0	0	0	0	0	0

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Exploration concessions issued to six companies, some in water depth greater than 200-m.

## 6. Investment in oil and gas exploration and exploitation through 1970:

	By local companies	By U.S. companies	By companies of other countries	By government
	Amount -----	0	NA	0	0
Percent -----	0	100	0	0

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper -----	39	35	1969	NA	NA	1970
Nickel -----	NA	NA	1969	NA	NA	1970
Manganese -----	NA	NA	1969	NA	NA	1970
Cobalt -----	NA	NA	1969	NA	NA	1970

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper -----	0	0	1971
Nickel -----	0	0	1971
Manganese -----	0	0	1971
Cobalt -----	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI=No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## SINGAPORE

Category: Shelf locked.

Bordering water body: South China Sea.

Coastal length: 28 nautical miles.

Shelf area to 200-m depth: 100 sq nautical miles.

Margin: Area to 3,000-m depth, 100 sq nautical miles. Area to 200 nautical miles, 100 sq nautical miles.

Geology: Coastal onshore, crystalline. Offshore, crystalline.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	158.4	21.7	1971	0	0	1970
Exports.....	114.8	15.7	1971	0	0	1970

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	0	V	V	0	V	V

## 4A. Number of production and exploratory wells completed through 1971:

Category.....	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
0	0	0	0	0	0	0	0

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

None.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	0	0	0	0
Percent.....	0	0	0	0

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	2,980	2,710	1968	1,100	1,000	1968
Nickel.....	NA	NA	1968	NA	NA	1968
Manganese.....	9,989	9,062	1968	2,295	2,082	1968
Cobalt.....	NA	NA	1968	NA	NA	1968

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## SOMALIA

Category: Open shelf.

Bordering water body: Indian Ocean.

Coastal length: 1,596 nautical miles.

Shelf area to 200-m depth: 17,700 sq nautical miles.

Margin: Area to 3,000-m depth, 106,200 sq nautical miles.

Area to 200 nautical miles, 228,300 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports -----	0.7	0.1	1970	NA	NA	1970
Exports -----	0	0	1970	0	0	1970

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category -----	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	V	IV	V	V	V

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
0	0	0	0	0	0	0	0

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

One concession granted in 1971 to a French company, partly extending beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
	Amount -----	NA	NA	NA	NA
Percent -----	NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper -----	NA	NA	1971	NA	NA	1971
Nickel -----	NA	NA	1971	NA	NA	1971
Manganese -----	NA	NA	1971	NA	NA	1971
Cobalt -----	NA	NA	1971	NA	NA	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper -----	0	0	1971
Nickel -----	0	0	1971
Manganese -----	0	0	1971
Cobalt -----	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI=No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## SOUTH AFRICA

Category: Open shelf.

Bordering water bodies: Indian Ocean, Atlantic Ocean.

Coastal length: 1,462 nautical miles.

Shelf area to 200-m depth: 41,800 sq nautical miles.

Margin: Area to 3,000-m depth, 183,700 sq nautical miles.

Area to 200 nautical miles, 296,500 sq nautical miles.

Geology: Coastal onshore, sedimentary/crystalline. Offshore, crystalline.

Coastal and offshore placers: Active, Ti, m, z. Known, d.

Onshore source deposits, Ti, d, m, z.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports -----	89.4	12.2	1970	NA	NA	1970
Exports -----	<sup>1</sup> 15.8	<sup>1</sup> 2.2	1970	NA	NA	1970

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	SI	SI	0	SI	SI
1970 -----	0	SI	SI	0	SI	SI
1971 -----	0	SI	SI	0	SI	SI

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	SI	SI	0	SI	SI
1970 -----	0	SI	SI	0	SI	SI
1971 -----	0	SI	SI	0	SI	SI

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	SI	SI	0	SI	SI

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	SI	SI	0	SI	SI

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	NA	NA	NA	NA	NA	NA

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	NA	NA	NA	NA	NA	NA

## 3B. Potential resources (ultimate recoverable resources):

Category -----	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	VI	V	V	III	IV	III

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
0	14	0	2	0	0	16	16

## 4B. Number of wells producing in 1971:

Zero and two SI.

## 5. Instances of licensing for offshore exploration for oil and gas:

11 offshore licenses granted to eight consortia and three companies, some in water depths greater than 200 m.

## 6. Investment in oil and gas exploration and exploitation through 1971:

Amount Percent -----	By local companies	By U.S. companies	By companies of other countries	By government
	NA NA	NA NA	NA NA	NA NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper -----	27,900	25,330	1968	160,800	145,950	1968
Nickel -----	522	474	1968	8,453	7,668	1971
Manganese -----	2,122	1,925	1968	2,954,950	2,681,443	1971
Cobalt -----	15	14	1968	NA	NA	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper -----	187,177	169,804	1971
Nickel -----	14,062	12,757	1971
Manganese -----	3,768,800	3,418,173	1971
Cobalt -----	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[M=Moderate; S=Sparse; NI=No information]

	0-50 miles	50-200 miles	200-400 miles
	NI	S	M

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## SPAIN

Category: Open shelf.

Bordering water bodies: Atlantic Ocean, Mediterranean Sea.  
Coastal length: 2,038 nautical miles.

Shelf area to 200-m depth: 49,700 sq nautical miles.

Margin: Area to 3,000-m depth, 158,200 sq nautical miles.

Area to 200 nautical miles, 355,600 sq nautical miles.

Geology: Coastal onshore, sedimentary/crystalline. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, c.  
Onshore source deposits, Fe, Sn, W.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	263.5	36.1	1971	Negl	Negl	1971
Exports.....	32.8	4.5	1971	Negl	Negl	1971

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	.2	0	.2	Negl	0	Negl
1967.....	.6	0	.6	.1	0	.1
1968.....	1.5	0	1.5	.2	0	.2
1969.....	1.5	0	1.5	.2	0	.2
1970.....	1.5	SI	1.5	.2	SI	.2
1971.....	.7	SI	.7	.1	SI	.1

## Natural gas (gross production)

	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	.1	0	.1	Negl	0	Negl
1970.....	.1	SI	.1	Negl	SI	Negl
1971.....	.1	SI	.1	Negl	SI	Negl

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1966-71.....	6	SI	6	1	SI	1

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1969-71.....	0.3	SI	0.3	Negl	SI	Negl

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	NA	NA	305	NA	NA	42

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	120	380	500	4	11	15

<sup>1</sup> Estimated.

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	IV	IV	IV	V	IV

## 4A. Number of production and exploratory wells completed in 1971:

	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
	0	9	3	2	0	3	11

## 4B. Number of wells producing in 1971:

21 and five SI, all onshore; and five SI (est) offshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

Exploration permits and exploitation concessions granted to U.S., French, British and Spanish companies, in the Atlantic and Mediterranean, all within the 200-m depth.

## 6. Investment in oil and gas exploration and exploitation, 1959-70:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	(1)	(1)	(1)	0
Percent.....	(1)	(1)	(1)	0

<sup>1</sup> \$136 million or 100 percent; no breakdown available.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	1126,500	1114,800	1969	24,240	22,000	1970
Nickel.....	4,740	4,300	1969	64	58	1968
Manganese.....	191,728	173,993	1971	21	19	1971
Cobalt.....	NA	NA	1971	NA	NA	1971

<sup>1</sup> Estimated.

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper <sup>1</sup> .....	10,063	9,133	1970
Nickel.....	NA	NA	1970
Manganese.....	11,500	10,436	1970
Cobalt.....	NA	NA	1970

<sup>1</sup> Estimated.

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## SRI LANKA (CEYLON)

Category: Open shelf.

Bordering water body: Indian Ocean.

Coastal length: 650 nautical miles.

Shelf area to 200-m depth: 7,800 sq nautical miles.

Margin: Area to 3,000-m depth, 26,900 sq nautical miles.

Area to 200 nautical miles, 150,900 sq nautical miles.

Geology: Coastal onshore, crystalline/sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, Ti, cr, m, z. Known, none. Onshore source deposits, Ti, z.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	12.4	1.7	1970	NA	NA	1968
Exports.....	Negl	Negl	1970	NA	NA	1968

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
		0	V	V	0	V	V

## 4A. Number of production and exploratory wells completed in 1971:

Category.....	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
	0	0	0	0	0	0	0

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

A state agency holds exploration rights to the entire country.

## 6. Investment in oil and gas exploration and exploitation in 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	0	0	0	NA
Percent.....	0	0	0	100

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	927	841	1968	0	0	1968
Nickel.....	0	0	1968	0	0	1968
Manganese.....	0	0	1968	0	0	1968
Cobalt.....	0	0	1968	0	0	1968

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

Government interested in exploration for heavy mineral sands (ilmenite, zircon, rutile, monazite).

## SUDAN

Category: Open shelf.

Bordering water body: Red Sea.

Coastal length: 387 nautical miles.

Shelf area to 200-m depth: 6,500 sq nautical miles.

Margin: Area to 3,000-m depth, 26,500 sq nautical miles.

Area to 200 nautical miles, 26,700 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports -----	11.2	1.5	1970	0	0	1970
Exports -----	11.1	1.2	1970	0	0	1970

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category -----	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	V	V	V	V	V	V

## 4A. Number of production and exploratory wells completed in 1971:

	Onshore		Offshore		Total			
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
	0	0	0	0	0	0	0	0

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

One company holds all concessions, some of which extend beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
	NA	NA	NA	NA
Amount -----	NA	NA	NA	NA
Percent -----	NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper -----	6	5	1970	0	0	1970
Nickel -----	0	0	1970	0	0	1970
Manganese -----	0	0	1970	0	0	1970
Cobalt -----	0	0	1970	0	0	1970

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper -----	0	0	1969
Nickel -----	0	0	1969
Manganese -----	1,000	900	1970
Cobalt -----	0	0	1970

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

	[NI=No information]		
	0-50 miles	50-200 miles	200-400 miles
	NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

Exploration licenses for hot sea brines issued, some beyond 200-m depth.

## SWEDEN

Category: Shelf locked.

Bordering water body: Baltic Sea.

Coastal length: 1,359 nautical miles.

Shelf area to 200-m depth: 45,300 sq nautical miles.

Margin: Area to 3,000-m depth, 45,300 sq nautical miles.

Area to 200 nautical miles, 45,300 sq nautical miles.

Geology: Coastal onshore, crystalline. Offshore, crystalline.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, Fe.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	235.6	32.3	1970	NA	NA	1970
Exports.....	13.0	1.8	1970	0	0	1970

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	0	0	0	0	0

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	VI	V	V	VI	V	V

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
0	4	0	0	0	0	4	4

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Exclusive concession granted in 1969 for 8 years to joint venture (50 percent Swedish government and 50 percent private Swedish companies).

## 6. Investment in oil and gas exploration and exploitation, June 1969–April 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	\$4.25 million	0	0	\$4.25 million
Percent.....	50	0	0	50

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper <sup>1</sup> .....	122,800	111,500	1970	85,900	78,000	1970
Nickel <sup>2</sup> .....	24,370	22,113	1970	2,800	2,540	1970
Manganese.....	126,535	114,791	1970	571	518	1970
Cobalt.....	7	6	1968	6	5	1969

<sup>1</sup> Estimated; all forms.

<sup>2</sup> All forms.

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	25,500	23,130	1970
Nickel.....	NA	NA	1969
Manganese.....	9,700	8,800	1969
Cobalt <sup>1</sup> .....	3	3	1968

<sup>1</sup> Estimated.

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[M=Moderate]		
0-50 miles	50-200 miles	200-400 miles
M	M	M

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## SWITZERLAND

Category: Landlocked.  
 Bordering water body: None.  
 Coastal length: None.  
 Shelf area to 200-m depth: None.  
 Margin: None.  
 Geology: Sedimentary/crystalline.  
 Coastal and offshore placers: None.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	101.9	14.0	1970	3.5	0.1	1971
Exports.....	1.8	.2	1970	0	0	1968

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	-----	0	0	-----	0
1961.....	0	-----	0	0	-----	0
1962.....	0	-----	0	0	-----	0
1963.....	0	-----	0	0	-----	0
1964.....	0	-----	0	0	-----	0
1965.....	0	-----	0	0	-----	0
1966.....	0	-----	0	0	-----	0
1967.....	0	-----	0	0	-----	0
1968.....	0	-----	0	0	-----	0
1969.....	0	-----	0	0	-----	0
1970.....	0	-----	0	0	-----	0
1971.....	0	-----	0	0	-----	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	-----	0	0	-----	0
1961.....	0	-----	0	0	-----	0
1962.....	0	-----	0	0	-----	0
1963.....	0	-----	0	0	-----	0
1964.....	0	-----	0	0	-----	0
1965.....	0	-----	0	0	-----	0
1966.....	0	-----	0	0	-----	0
1967.....	0	-----	0	0	-----	0
1968.....	0	-----	0	0	-----	0
1969.....	0	-----	0	0	-----	0
1970.....	0	-----	0	0	-----	0
1971.....	0	-----	0	0	-----	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	-----	0	0	-----	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	-----	0	0	-----	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	-----	0	0	-----	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	-----	0	0	-----	0

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	V	-----	V	V	-----	V

## 4A. Number of production and exploratory wells completed in 1971:

	Onshore		Offshore		Total		
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Pro-duction	Explor-atory	All wells
	0	0	-----	-----	-----	0	0

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Landlocked.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	NA	NA	NA	NA
Percent.....	NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper <sup>1</sup> .....	67,915	61,629	1968	32,000	29,040	1968
Nickel.....	2,817	2,556	1968	2,165	1,964	1968
Manganese.....	697	632	1968	0	0	1968
Cobalt.....	7	6	1968	1	1	1968

<sup>1</sup> All forms.

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1969
Nickel.....	0	0	1969
Manganese.....	0	0	1969
Cobalt.....	0	0	1969

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

	0-50 miles	50-200 miles	200-400 miles
-----	-----	-----	-----

## 10. Instances of licensing for offshore exploration for hard minerals:

Landlocked.

## TANZANIA

Category: Open shelf.

Bordering water body: Indian Ocean.

Coastal length: 669 nautical miles.

Shelf area to 200-m depth: 12,000 sq nautical miles.

Margin: Area to 3,000-m depth, 41,600 sq nautical miles.

Area to 200 nautical miles, 65,100 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, d.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports -----	7.9	1.1	1970	0	0	1970
Exports -----	5.0	.7	1971	0	0	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category -----	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	V	IV	IV	IV	IV

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
0	0	0	0	0	0	0	0

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

The government petroleum company is the sole concession holder and has granted a 30-year production sharing contract to an Italian company covering the entire continental shelf, four islands, and an onshore area.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount -----	0	0	NA	NA
Percent -----	0	0	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper -----	164	149	1968	0	0	1971
Nickel -----	NA	NA	1968	0	0	1971
Manganese -----	NA	NA	1968	0	0	1971
Cobalt -----	NA	NA	1968	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper -----	0	0	1971
Nickel -----	0	0	1971
Manganese -----	0	0	1971
Cobalt -----	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI=No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## THAILAND

## Category: Open shelf.

Bordering water bodies: South China Sea, Indian Ocean.

Coastal length: 1,299 nautical miles.

Shelf area to 200-m depth: 75,100 sq nautical miles.

Margin: Area to 3,000-m depth, 94,700 sq nautical miles.

Area to 200 nautical miles, 94,700 sq nautical miles.

Geology: Coastal onshore, crystalline/sedimentary. Offshore, sedimentary/crystalline.

Coastal and offshore placers: Active, Sn. Known, none.

Onshore source deposits, Fe, Sn.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports -----	37.7	5.2	1971	0	0	1971
Exports -----	1.4	1.1	1970	0	0	1971

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	Negl	0	Negl	Negl	0	Negl
1961 -----	Negl	0	Negl	Negl	0	Negl
1962 -----	Negl	0	Negl	Negl	0	Negl
1963 -----	Negl	0	Negl	Negl	0	Negl
1964 -----	Negl	0	Negl	Negl	0	Negl
1965 -----	Negl	0	Negl	Negl	0	Negl
1966 -----	Negl	0	Negl	Negl	0	Negl
1967 -----	Negl	0	Negl	Negl	0	Negl
1968 -----	Negl	0	Negl	Negl	0	Negl
1969 -----	Negl	0	Negl	Negl	0	Negl
1970 -----	.1	0	.1	Negl	0	Negl
1971 -----	0.1	0	0.1	Negl	0	Negl

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	Negl	0	Negl	Negl	0	Negl

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960-71 -----	0.6	0	0.6	0.1	0	0.1

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
In 1971 -----	Negl	0	Negl	Negl	0	Negl

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0.5	0	0.5	0.1	0	0.1

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	Negl	0	Negl	Negl	0	Negl

## 3B. Potential resources (ultimate recoverable resources):

Category -----	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	IV	IV	IV	IV	IV

## 4A. Number of production and exploratory wells completed in 1971:

	Onshore		Offshore		Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory	Pro-duction	Explor-atory
	NA	1	0	1	0	NA
						2
						>2

## 4B. Number of wells producing in 1971:

26 and 16 SI, all onshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

Nineteen concessions awarded to six American companies and British company all within 200-m depth. Four additional concessions with an American company are not yet signed. Two new offshore areas located between 200-m and 1,000-m depth will be opened for exploration in the near future.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
	Amount -----	0	<sup>1</sup> \$13 million	<sup>1</sup> \$1 million	Negl
Percent -----	0	192	18	Negl

<sup>1</sup> Estimated.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper -----	5,400	4,900	1969	NA	NA	1968
Nickel -----	310	280	1969	NA	NA	1968
Manganese -----	980	890	1969	8,660	7,860	1970
Cobalt -----	NA	NA	1971	NA	NA	1968

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
	Copper -----	NA	NA	1969
Nickel -----	NA	NA	1969
Manganese <sup>1</sup> -----	15,000	14,000	1971
Cobalt -----	NA	NA	1969

<sup>1</sup> Estimated.

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

	[NI=No information]		
	0-50 miles	50-200 miles	200-400 miles
	NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No concessions.

## TOGO

Category: Open shelf.

Bordering water body: Atlantic Ocean.

Coastal length: 26 nautical miles.

Shelf area to 200-m depth: 300 sq nautical miles.

Margin: Area to 3,000-m depth, 300 sq nautical miles. Area to 200 nautical miles, 300 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	10.7	10.1	1971	NA	NA	1971
Exports.....	0	0	1971	0	0	1971

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	0	0	0	0	0

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	V	V	V	V	V	V

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total	
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
0	0	0	1	0	0	1

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Two concessions held by two companies within 200-m depth. One concession held by one company from 200-m to 3,000-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	0	>\$4 million	0	0
Percent.....	0	100	0	0

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	Negl	Negl	1971	0	0	1971
Nickel.....	Negl	Negl	1971	0	0	1971
Manganese.....	Negl	Negl	1971	0	0	1971
Cobalt.....	Negl	Negl	1971	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]

	0-50 miles	50-200 miles	200-400 miles
*	NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## TRINIDAD AND TOBAGO

Category: Open shelf.

Bordering water body: Atlantic Ocean.

Coastal length: 254 nautical miles.

Shelf area to 200-m depth: 8,500 sq nautical miles.

Margin: Area to 3,000-m depth, 17,300 sq nautical miles.

Area to 200 nautical miles, 22,400 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	107	15	1971	0	0	1971
Exports.....	144	21	1971	0	0	1971

<sup>1</sup> Crude.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	37	6	43	5	1	6
1961.....	37	9	46	6	1	7
1962.....	36	13	49	5	2	7
1963.....	35	15	50	5	2	7
1964.....	33	17	50	5	2	7
1965.....	33	16	49	5	2	7
1966.....	38	17	55	6	2	8
1967.....	45	20	65	6	3	9
1968.....	43	24	67	6	4	10
1969.....	32	25	57	5	3	8
1970.....	29	22	51	4	3	7
1971.....	27	20	47	4	3	7

## Natural gas (gross production)

	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore <sup>1</sup>	Total	Onshore	Offshore <sup>1</sup>	Total
	1960.....	65	33	98	2	1	3
1961.....	68	34	102	2	1	3
1962.....	67	33	100	2	1	3
1963.....	66	33	99	2	1	3
1964.....	74	37	111	2	1	3
1965.....	77	38	115	2	1	3
1966.....	79	40	119	2	1	3
1967.....	93	47	140	3	1	4
1968.....	101	50	151	3	1	4
1969.....	92	46	138	3	1	4
1970.....	81	40	121	2	1	3
1971.....	78	39	117	2	1	3

<sup>1</sup> Offshore gas production estimated to be one-third of total.

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1908-71.....	1,013	281	1,294	145	40	185

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore <sup>1</sup>	Total	Onshore	Offshore <sup>1</sup>	Total
1960-71.....	941	470	1,411	27	13	40

<sup>1</sup> Offshore gas production estimated to be one-third of total.

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	1,229	271	1,500	176	39	215

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	Negl	<5,000	5,000	Negl	<140	140

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	IV	IV	IV	III	III

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
178	21	7	14	0	185	35	220

## 4B. Number of wells producing in 1971:

2,836 onshore and 226 offshore; and 4,145 SI onshore and 62 SI offshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

Approximately 30 exploration and production licenses granted to nine companies and four consortia, some extending beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation in 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	0	<sup>1</sup> \$290 million	<sup>1</sup> \$60 million	0
Percent.....	0	83	17	0

<sup>1</sup> Estimated.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	500	454	1971	0	0	1971
Nickel.....	13	12	1971	0	0	1971
Manganese.....	0	0	1971	0	0	1971
Cobalt.....	0	0	1971	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[S = Sparse; NI = No information]

	0-50 miles	50-200 miles	200-400 miles
	NI	S	S

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## TUNISIA

Category: Open shelf.

Bordering water body: Mediterranean Sea.

Coastal length: 555 nautical miles.

Shelf area to 200-m depth: 14,800 sq nautical miles.

Margin: Area to 3,000-m depth, 25,000 sq nautical miles.

Area to 200 nautical miles, 25,000 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, Fe.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	2.2	0.3	1971	Negl	Negl	1970
Exports.....	23.9	3.1	1971	3.5	0.1	1969

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	4.7	0	4.7	.6	0	.6
1967.....	17.1	0	17.1	2.2	0	2.2
1968.....	24.5	0	24.5	3.2	0	3.2
1969.....	27.9	0	27.9	3.6	0	3.6
1970.....	34.3	0	34.3	4.4	0	4.4
1971.....	32.4	SI	32.4	4.2	SI	4.2

## Natural gas (gross production)

	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	1960.....	0.3	0	0.3	Negl	0	Negl
1961.....	.3	0	.3	Negl	0	Negl
1962.....	.3	0	.3	Negl	0	Negl
1963.....	.3	0	.3	Negl	0	Negl
1964.....	.3	0	.3	Negl	0	Negl
1965.....	.3	0	.3	Negl	0	Negl
1966.....	.3	0	.3	Negl	0	Negl
1967.....	.3	0	.3	Negl	0	Negl
1968.....	.3	0	.3	Negl	0	Negl
1969.....	.3	0	.3	Negl	0	Negl
1970.....	.3	0	.3	Negl	0	Negl
1971.....	.9	0	.9	Negl	0	Negl

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1966-71.....	141	SI	141	18	SI	18

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1949-71.....	100	0	100	3	0	3

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	478	116	594	62	15	77

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	<1,500	NA	1,500	<43	NA	43

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	IV	IV	IV	IV	III

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
3	11	0	2	0	3	13	16

## 4B. Number of wells producing in 1971:

43, all onshore; 15 SI onshore and one SI offshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

Nine exploration licenses held by two companies and four consortia covering all offshore within 200-m depth.

## 6. Investment in oil and gas exploration and exploitation, 1961-71:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	(1) NA	(1) NA	(1) NA	(1) NA
Percent.....	(1) NA	(1) NA	(1) NA	(1) NA

<sup>1</sup> \$38 million estimated, of which an estimated \$26 million was invested in 1971.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	1,640	1,492	1969	950	867	1969
Nickel.....	0	0	1971	0	0	1971
Manganese.....	0	0	1971	0	0	1971
Cobalt.....	0	0	1971	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## TURKEY

## Category: Open shelf.

Bordering water bodies: Mediterranean Sea, Black Sea.

Coastal length: 1,921 nautical miles.

Shelf area to 200-m depth: 14,700 sq nautical miles.

Margin: Area to 3,000-m depth, 69,000 sq nautical miles.

Area to 200 nautical miles, 69,000 sq nautical miles.

Geology: Coastal onshore, sedimentary/crystalline. Offshore, sedimentary/crystalline.

Coastal and offshore placers: Active, none. Known, Hg, c, cr. Onshore source deposits, cr.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	34.8	4.8	1970	NA	NA	1970
Exports.....	.3	Negl	1970	NA	NA	1970

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	2.6	0	2.6	0.4	0	0.4
1961.....	3.1	0	3.1	.4	0	.4
1962.....	4.2	0	4.2	.6	0	.6
1963.....	5.2	0	5.2	.7	0	.7
1964.....	6.4	0	6.4	.9	0	.9
1965.....	10.8	0	10.8	1.5	0	1.5
1966.....	13.3	0	13.3	1.9	0	1.9
1967.....	19.5	0	19.5	2.7	0	2.7
1968.....	22.2	0	22.2	3.1	0	3.1
1969.....	25.8	0	25.8	3.6	0	3.6
1970.....	24.8	0	24.8	3.5	0	3.5
1971.....	24.5	0	24.5	3.4	0	3.4

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	NA	0	NA	NA	0	NA
1961.....	NA	0	NA	NA	0	NA
1962.....	NA	0	NA	NA	0	NA
1963.....	NA	0	NA	NA	0	NA
1964.....	NA	0	NA	NA	0	NA
1965.....	NA	0	NA	NA	0	NA
1966.....	NA	0	NA	NA	0	NA
1967.....	NA	0	NA	NA	0	NA
1968.....	NA	0	NA	NA	0	NA
1969.....	NA	0	NA	NA	0	NA
1970.....	20.1	0	20.1	0.6	0	0.6
1971.....	NA	0	NA	NA	0	NA

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1948-71.....	174	0	174	24	0	24

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1948-70.....	179	0	179	12	0	12

<sup>1</sup> Estimated.

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	580	0	580	80	0	80

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	170	0	170	5	0	5

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	IV	IV	IV	IV	IV

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
28	22	0	2	0	28	24	52

## 4B. Number of wells producing in 1971:

294 and 88 SI, all onshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

Two joint ventures with U.S. companies and Turkish oil company and 45 exploration licenses, some in part or in whole beyond 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	NA	NA	NA	NA
Percent.....	NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	356	323	1969	7,200	6,540	1969
Nickel.....	105	95	1969	0	0	1968
Manganese.....	0	0	1968	4,840	4,393	1969
Cobalt.....	0	0	1968	0	0	1968

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	31,000	28,000	1971
Nickel.....	0	0	1969
Manganese.....	10,460	9,494	1970
Cobalt.....	0	0	1969

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

	[S= Sparse; NI= No information]		
	0-50 miles	50-200 miles	200-400 miles
	NI	S	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## UGANDA

Category: Landlocked.  
 Bordering water body: None.  
 Coastal length: None.  
 Shelf area to 200-m depth: None.  
 Margin: None.  
 Geology: Crystalline.  
 Coastal and offshore placers: None.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports -----	3.4	10.5	1970	NA	NA	1971
Exports -----	1 Negl	1 Negl	1970	0	0	1971

<sup>1</sup> Products.

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	----	0	0	----	0
1961 -----	0	----	0	0	----	0
1962 -----	0	----	0	0	----	0
1963 -----	0	----	0	0	----	0
1964 -----	0	----	0	0	----	0
1965 -----	0	----	0	0	----	0
1966 -----	0	----	0	0	----	0
1967 -----	0	----	0	0	----	0
1968 -----	0	----	0	0	----	0
1969 -----	0	----	0	0	----	0
1970 -----	0	----	0	0	----	0
1971 -----	0	----	0	0	----	0

## Natural gas (gross production)

	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	1960 -----	0	----	0	0	----	0
1961 -----	0	----	0	0	----	0
1962 -----	0	----	0	0	----	0
1963 -----	0	----	0	0	----	0
1964 -----	0	----	0	0	----	0
1965 -----	0	----	0	0	----	0
1966 -----	0	----	0	0	----	0
1967 -----	0	----	0	0	----	0
1968 -----	0	----	0	0	----	0
1969 -----	0	----	0	0	----	0
1970 -----	0	----	0	0	----	0
1971 -----	0	----	0	0	----	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	----	0	0	----	0

## Natural gas

	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	Through 1971 -----	0	----	0	0	----	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	----	0	0	----	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	----	0	0	----	0

## 3B. Potential resources (ultimate recoverable resources):

Category -----	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	0	----	0	0	----	0

## 4A. Number of production and exploratory wells completed in 1971:

	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory All wells
	0	0	----	----	----	0	0

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Landlocked.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
	Amount -----	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
Percent -----	NA	>50	NA	NA

<sup>1</sup> \$,072 million; no breakdown available.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper -----	195	177	1968	17,231	15,632	1968
Nickel -----	0	0	1971	0	0	1971
Manganese -----	0	0	1971	0	0	1971
Cobalt -----	0	0	1971	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper -----	15,819	14,350	1971
Nickel -----	0	0	1971
Manganese -----	0	0	1971
Cobalt -----	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

	0-50 miles	50-200 miles	200-400 miles
-----	-----	-----	-----

## 10. Instances of licensing for offshore exploration for hard minerals:

Landlocked.

## UNION OF SOVIET SOCIALIST REPUBLICS

Category: Open shelf.

Bordering water bodies: Arctic Ocean, Pacific Ocean, Baltic Sea, Black Sea, Sea of Japan.

Coastal length: 23,098 nautical miles.

Shelf area to 200-m depth: 364,300 sq nautical miles.

Margin: Area to 3,000-m depth, 735,900 sq nautical miles.

Area to 200 nautical miles, 1,309,500 sq nautical miles.  
Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, Au, Fe, Sn, Ti, W, z.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	27.4	3.8	1970	94.9	2.7	1970
Exports.....	259.9	35.4	1970	120.5	3.4	1970

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	NA	NA	1,087.1	NA	NA	147.9
1961.....	NA	NA	1,220.8	NA	NA	166.1
1962.....	NA	NA	1,368.6	NA	NA	186.2
1963.....	NA	NA	1,514.8	NA	NA	206.1
1964.....	NA	NA	1,643.5	NA	NA	223.6
1965.....	NA	NA	1,785.3	NA	NA	242.9
1966.....	NA	NA	1,948.5	NA	NA	265.1
1967.....	NA	NA	2,117.5	NA	NA	288.1
1968.....	NA	NA	2,272.6	NA	NA	309.2
1969.....	NA	NA	2,410.8	NA	NA	328.0
1970.....	NA	NA	2,590.9	NA	NA	352.5
1971.....	2,634.6	81.0	2,715.6	358.5	11.0	369.5

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	NA	NA	1,750	NA	NA	50
1961.....	NA	NA	2,270	NA	NA	64
1962.....	NA	NA	2,800	NA	NA	79
1963.....	NA	NA	3,400	NA	NA	96
1964.....	NA	NA	3,850	NA	NA	109
1965.....	NA	NA	4,570	NA	NA	129
1966.....	NA	NA	5,110	NA	NA	145
1967.....	NA	NA	5,601	NA	NA	159
1968.....	NA	NA	6,039	NA	NA	171
1969.....	NA	NA	6,455	NA	NA	183
1970.....	NA	NA	6,989	NA	NA	198
1971.....	NA	NA	7,484	NA	NA	212

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1863-1971.....	33,440	847	34,287	4,550	116	4,665

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1863-1971.....	<61,974	NA	61,974	<1,755	NA	1,755

## 3A. Proved recoverable reserves:

As of 1971.....	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	<73,590	>1,410	75,000	<10,010	>190	10,200

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	<546,000	NA	546,000	<15,000	NA	15,000

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	II	II	II	II	II	I

4A. Number of production and exploratory wells completed in 1971:<sup>1</sup>

Category.....	Onshore		Offshore		Total		
	Production	Exploratory	Production	Exploratory, <200 m	Production	Exploratory	All wells
	NA	NA	NA	NA	NA	NA	NA

<sup>1</sup> Wells completed in 1969: 6,100 production and 4,900 exploratory, all onshore; 37 production and 24 exploratory, all offshore.

## 4B. Number of wells producing in 1971:

50,700 (est).

## 5. Instances of licensing for offshore exploration for oil and gas:

No information.

## 6. Investment in oil and gas exploration and exploitation in 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	0	0	0	NA
Percent.....	0	0	0	100

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	12,760	11,580	1970	165,800	150,500	1970
Nickel.....	NA	NA	1969	NA	NA	1969
Manganese.....	0	0	1970	1,493,000	1,355,000	1971
Cobalt.....	1,388	1,260	1968	112	102	1968

<sup>1</sup> Estimated.

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper <sup>1</sup> .....	680,000	616,760	1971
Nickel <sup>1</sup> .....	121,000	109,700	1970
Manganese <sup>1</sup> .....	8,000,000	7,300,000	1971
Cobalt <sup>1</sup> .....	1,750	1,590	1971

<sup>1</sup> Estimated.

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

	[M=Moderate]		
	0-50 miles	50-200 miles	200-400 miles
	M	M	M

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## UNITED ARAB EMIRATES

[Figures given do not include Fujairah, which is open to the Indian Ocean]

Category: Shelf locked.

Bordering water body: Persian Gulf.

Coastal length: 420 nautical miles.

Shelf area to 200-m depth: 17,300 sq nautical miles.

Margin: Area to 3,000-m depth, 17,300 sq nautical miles.

Area to 200 nautical miles, 17,300 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	0.8	0.1	1970	NA	NA	1970
Exports.....	384.2	50.9	1971	0	0	1970

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	6.0	6.0	0	.8	.8
1963.....	NA	NA	17.6	NA	NA	2.3
1964.....	NA	NA	67.5	NA	NA	8.9
1965.....	NA	NA	102.8	NA	NA	13.6
1966.....	NA	NA	131.3	NA	NA	17.4
1967.....	NA	NA	140.1	NA	NA	18.6
1968.....	NA	NA	181.8	NA	NA	24.1
1969.....	<sup>1</sup> 129.0	<sup>1</sup> 93.6	222.6	<sup>1</sup> 17.0	<sup>1</sup> 12.4	29.4
1970.....	NA	NA	284.8	NA	NA	37.7
1971.....	209.9	176.7	386.6	27.8	23.4	51.2

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	NA	NA	4.5	NA	NA	0.1
1963.....	NA	NA	13.2	NA	NA	.4
1964.....	NA	NA	50.6	NA	NA	1.4
1965.....	NA	NA	77.1	NA	NA	2.2
1966.....	NA	NA	98.5	NA	NA	2.8
1967.....	NA	NA	105.0	NA	NA	3.0
1968.....	NA	NA	192.0	NA	NA	5.4
1969.....	NA	NA	<sup>1</sup> 237.0	NA	NA	<sup>1</sup> 6.7
1970.....	NA	NA	<sup>1</sup> 291.0	NA	NA	<sup>1</sup> 8.2
1971.....	NA	NA	<sup>1</sup> 256.0	NA	NA	<sup>1</sup> 7.2

<sup>1</sup> Estimated.

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1962-1971.....	<sup>1</sup> 918	<sup>1</sup> 623	1,541	<sup>1</sup> 122	<sup>1</sup> 82	204

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1962-1971 <sup>1</sup> .....	859	466	1,325	25	13	38

<sup>1</sup> Estimated.

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	16,009	4,493	20,502	2,121	595	2,716

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	9,000	2,165	11,165	255	61	316

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	III	III	III	III	III	III

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
15	9	12	8	0	27	17	44

## 4B. Number of wells producing in 1971:

45 (est) onshore and 71 (est) offshore; five SI (est) onshore and 28 SI (est) offshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

Eight concessions granted to five consortia and three companies, all within 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	0	<sup>1</sup> >\$80 million	<sup>1</sup> >\$80 million	NA
Percent.....	0	>50	<50	NA

<sup>1</sup> Estimated.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	NA	NA	1971	NA	NA	1971
Nickel.....	NA	NA	1971	NA	NA	1971
Manganese.....	NA	NA	1971	NA	NA	1971
Cobalt.....	NA	NA	1971	NA	NA	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI=No information]

0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

None known.

## UNITED KINGDOM

Category: Open shelf.

Bordering water bodies: Atlantic Ocean, North Sea.

Coastal length: 2,790 nautical miles.

Shelf area to 200-m depth: 143,500 sq nautical miles.

Margin: Area to 3,000-m depth, 281,800 sq nautical miles.

Area to 200 nautical miles, 274,800 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, Sn, g. Known, Cu, c.

Onshore source deposits, Cu, Fe, Sn.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	894.6	122.5	1970	33.9	1.0	1970
Exports.....	130.8	18.0	1970	0	0	1970

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0.6	0	0.6	0.1	0	0.1
1961.....	.8	0	.8	.1	0	.1
1962.....	.8	0	.8	.1	0	.1
1963.....	.9	0	.9	.1	0	.1
1964.....	.9	0	.9	.1	0	.1
1965.....	.6	0	.6	.1	0	.1
1966.....	.6	0	.6	.1	0	.1
1967.....	.6	0	.6	.1	0	.1
1968.....	.6	0	.6	.1	0	.1
1969.....	.6	0	.6	.1	0	.1
1970.....	.6	SI	.6	.1	SI	.1
1971.....	.7	SI	.7	.1	SI	.1

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	NA	NA	Negl	NA	NA	Negl
1961.....	NA	NA	0.1	NA	NA	Negl
1962.....	NA	NA	.1	NA	NA	Negl
1963.....	NA	NA	.2	NA	NA	Negl
1964.....	NA	NA	.2	NA	NA	Negl
1965.....	NA	NA	.5	NA	NA	Negl
1966.....	NA	NA	.1	NA	NA	Negl
1967.....	Negl	16.7	16.7	Negl	0.5	0.5
1968.....	Negl	71.4	71.4	Negl	2.0	2.0
1969.....	Negl	178.7	178.7	Negl	5.1	5.1
1970.....	Negl	396.5	396.5	Negl	11.2	11.2
1971.....	5.7	654.9	660.6	0.2	18.5	18.7

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1919-71.....	18	SI	18	3	SI	3

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1954-71.....	>6	>1,319	>1,325	>0.2	>37.3	>37.5

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	3,500	1,500	5,000	480	210	690

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	>6,900	<33,100	40,000	>200	<900	1,100

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	V	III	III	V	III	III

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
1	10	41	22	0	42	32	74

## 4B. Number of wells producing in 1971:

55 (est) onshore and NA offshore; 215 SI (est) onshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

Twelve concessions granted to eight companies, all within 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	NA	NA	NA	NA
Percent.....	NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper <sup>1</sup> .....	528,270	479,378	1968	195,310	177,236	1968
Nickel <sup>1</sup> .....	92,640	84,069	1968	50,400	45,742	1968
Manganese.....	531,160	482,000	1968	0	0	1969
Cobalt.....	1,919	1,741	1969	392	356	1969

<sup>1</sup> All forms.

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1969
Nickel.....	0	0	1969
Manganese.....	0	0	1969
Cobalt.....	0	0	1969

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

Three mining licenses issued as of January 1, 1971.

## UNITED STATES OF AMERICA

Category: Open shelf.

Bordering water bodies: Pacific Ocean, Gulf of Mexico, Atlantic Ocean, Arctic Ocean.

Coastal length: 11,650 nautical miles.

Shelf area to 200-m depth: 545,400 sq nautical miles.

Margin: Area to 3,000-m depth, 862,600 sq nautical miles.

Area to 200 nautical miles, 2,222,000 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, Ti, g, m, sh, z. Known, Au, c, cr. Onshore source deposits, Au, Pt, Sn, Ti, cr, m, z.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	1,405.2	192.5	1971	935.0	26.5	1971
Exports.....	80.3	10.8	1971	80.2	2.3	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	2,790.4	116.8	2,907.2	376.2	15.7	391.9
1961.....	2,850.1	133.4	2,983.5	384.2	18.0	402.2
1962.....	2,886.6	162.2	3,048.8	389.1	21.9	411.0
1963.....	2,965.5	188.1	3,153.6	399.8	25.3	425.1
1964.....	2,985.8	214.8	3,200.6	402.5	29.0	431.5
1965.....	3,047.5	242.6	3,290.1	410.8	32.7	443.5
1966.....	3,198.6	297.7	3,496.3	431.2	40.1	471.3
1967.....	3,378.0	352.3	3,730.3	455.4	47.5	502.9
1968.....	3,449.9	415.7	3,865.6	465.1	56.4	521.5
1969.....	3,493.9	464.9	3,958.8	471.0	62.7	533.7
1970.....	3,617.7	505.7	4,123.4	487.7	68.2	555.9
1971.....	3,552.1	548.6	4,100.7	478.8	74.0	552.8

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	14,648	440	15,088	415	12	427
1961.....	14,932	478	15,460	424	14	438
1962.....	15,399	640	16,039	436	18	454
1963.....	16,210	763	16,973	459	22	481
1964.....	16,590	850	17,440	470	24	494
1965.....	17,024	939	17,963	482	27	509
1966.....	17,662	1,372	19,034	500	39	539
1967.....	18,422	1,830	20,252	521	52	573
1968.....	19,026	2,299	21,325	539	65	604
1969.....	19,879	2,800	22,679	563	79	642
1970.....	20,651	3,136	23,787	585	89	674
1971.....	20,437	3,667	24,104	579	104	683

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1859-1971.....	1101,227	4,574	1105,801	13,646	617	14,263

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1859-1971 <sup>1</sup> .....	394,688	20,606	415,294	11,176	584	11,760

<sup>1</sup> Estimated.

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	139,677	15,690	155,367	15,349	1767	17,116

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	1239,342	139,463	1,378,805	16,777	1,118	17,895

<sup>1</sup> Estimated.

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	II	II	II	I	I	I

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
18,333	6,602	596	311	9	18,929	6,922	25,851

## 4B. Number of wells producing in 1971:

620,088 (est) onshore and 9,733 (est) offshore. Total, 629,771. Number of wells SI not available.

## 5. Instances of licensing for offshore exploration for oil and gas:

From 1963 to 1971, 3,104 Federal permits were granted for geological/geophysical exploration on the outer continental shelf. From 1954 to 1971, 1,559 Federal oil and gas leases were granted for California, Oregon, Washington, and the Gulf States.

## 6. Investment in oil and gas exploration and exploitation in 1971:

	By U.S. companies	By companies of other countries	By government
Amount.....	\$3,590 million	\$310 million	0
Percent.....	92	8	0

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	359,000	326,000	1971	260,000	236,000	1971
Nickel.....	142,183	128,960	1971	21,997	19,951	1971
Manganese.....	1,914,000	1,736,000	1971	55,000	50,000	1971
Cobalt.....	5,456	4,950	1971	183	166	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	1,533,000	1,391,000	1971
Nickel.....	15,000	14,000	1971
Manganese.....	0	0	1971
Cobalt.....	Negl	Negl	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[M = Moderate; NI = No information]

	0-50 miles	50-200 miles	200-400 miles
	NI	M	M

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## UPPER VOLTA

Category: Landlocked.  
 Bordering water body: None.  
 Coastal length: None.  
 Shelf area to 200-m depth: None.  
 Margin: None.  
 Geology: Crystalline/sedimentary.  
 Coastal and offshore placers: None.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal of bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports	0	0	1971	0	0	1971
Exports	0	0	1971	0	0	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960	0	0	0	0	0	0
1961	0	0	0	0	0	0
1962	0	0	0	0	0	0
1963	0	0	0	0	0	0
1964	0	0	0	0	0	0
1965	0	0	0	0	0	0
1966	0	0	0	0	0	0
1967	0	0	0	0	0	0
1968	0	0	0	0	0	0
1969	0	0	0	0	0	0
1970	0	0	0	0	0	0
1971	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960	0	0	0	0	0	0
1961	0	0	0	0	0	0
1962	0	0	0	0	0	0
1963	0	0	0	0	0	0
1964	0	0	0	0	0	0
1965	0	0	0	0	0	0
1966	0	0	0	0	0	0
1967	0	0	0	0	0	0
1968	0	0	0	0	0	0
1969	0	0	0	0	0	0
1970	0	0	0	0	0	0
1971	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category	Oil			Natural Gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	0	0	0	0	0	0

## 4A. Number of production and exploratory wells completed through 1971:

	Onshore		Offshore		Total		
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
	0	0	0	0	0	0	0

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Landlocked.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies				By U.S. companies		By companies of other countries		By government	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
Amount	0	0	0	0	0	0	0	0	0	0
Percent	0	0	0	0	0	0	0	0	0	0

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper	0	0	1971	0	0	1971
Nickel	0	0	1971	0	0	1971
Manganese	0	0	1971	0	0	1971
Cobalt	0	0	1971	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper	0	0	1971
Nickel	0	0	1971
Manganese	0	0	1971
Cobalt	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

	0-50 miles	50-200 miles	200-400 miles
	0	0	0

## 10. Instances of licensing for offshore exploration for hard minerals:

Landlocked.

## URUGUAY

Category: Open shelf.

Bordering water body: Atlantic Ocean.

Coastal length: 305 nautical miles.

Shelf area to 200-m depth: 16,500 sq nautical miles.

Margin: Area to 3,000-m depth, 39,600 sq nautical miles. Area to 200 nautical miles, 34,800 sq nautical miles.

Geology: Coastal onshore, sedimentary/crystalline. Offshore, sedimentary/crystalline.

Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, Ti, m, z.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports .....	13.1	1.8	1970	0	0	1971
Exports .....	0	0	1971	0	0	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971.....	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	V	V	IV	IV	IV	IV

4A. Number of production and exploratory wells completed in 1971: <sup>1</sup>

	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
	0	0	0	0	0	0	0

<sup>1</sup> 40 (est) onshore exploratory wells completed since 1948.

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Exploration performed on contract. Government prefers to retain direct responsibility for development of offshore petroleum resources.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	NA	NA	NA	NA
Percent.....	NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	0	0	1971	0	0	1971
Nickel.....	0	0	1971	0	0	1971
Manganese.....	0	0	1971	0	0	1971
Cobalt.....	0	0	1971	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## VENEZUELA

Category: Open shelf.

Bordering water bodies: Caribbean Sea, Atlantic Ocean.

Coastal length: 1,081 nautical miles.

Shelf area to 200-m depth: 25,700 sq nautical miles.

Margin: Area to 3,000-m depth, 69,700 sq nautical miles. Area to 200 nautical miles, 106,100 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary. Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, Au.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	0	0	1971	0	0	1971
Exports.....	1,219.1	174.0	1971	Negl	Negl	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	1,041.6	0	1,041.6	148.7	0	148.7
1961.....	1,065.5	0	1,065.5	152.1	0	152.1
1962.....	1,168.0	0	1,168.0	166.7	0	166.7
1963.....	1,185.6	0	1,185.6	169.3	0	169.3
1964.....	1,241.6	0	1,241.6	177.2	0	177.2
1965.....	1,267.4	0	1,267.4	180.9	0	180.9
1966.....	1,230.3	0	1,230.3	175.6	0	175.6
1967.....	1,293.2	0	1,293.2	184.6	0	184.6
1968.....	1,319.6	0	1,319.6	188.4	0	188.4
1969.....	1,312.1	0	1,312.1	187.3	0	187.3
1970.....	1,353.6	0	1,353.6	193.2	0	193.2
1971.....	1,295.7	0	1,295.7	185.0	0	185.0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	1,116.0	0	1,116.0	31.6	0	31.6
1961.....	1,168.9	0	1,168.9	33.1	0	33.1
1962.....	1,281.9	0	1,281.9	36.3	0	36.3
1963.....	1,324.3	0	1,324.3	37.5	0	37.5
1964.....	1,387.9	0	1,387.9	39.3	0	39.3
1965.....	1,440.9	0	1,440.9	40.8	0	40.8
1966.....	1,458.5	0	1,458.5	41.3	0	41.3
1967.....	1,617.4	0	1,617.4	45.8	0	45.8
1968.....	1,635.1	0	1,635.1	46.3	0	46.3
1969.....	1,673.9	0	1,673.9	47.4	0	47.4
1970.....	1,709.2	0	1,709.2	48.4	0	48.4
1971.....	1,681.0	0	1,681.0	47.6	0	47.6

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1909-71.....	27,630	0	27,630	3,944	0	3,944

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1909-71.....	25,837	0	25,837	732	0	732

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	<13,900	NA	13,900	<1,984	NA	1,984

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	<25,400	NA	25,400	<720	NA	720

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	III	III	II	II	II	II

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
462	44	0	0	0	462	44	506

## 4B. Number of wells producing in 1971:

11,097 (est) and 8,420 SI (est), all onshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

None. Government has had a policy of "no more concessions" for over 10 years, but a joint venture for offshore exploitation could be undertaken with the government oil company.

## 6. Investment in oil and gas exploration and exploitation in 1971:

	By local companies	By U.S. companies <sup>1</sup>	By companies of other countries <sup>1</sup>	By government <sup>1</sup>
Amount <sup>2</sup> .....	0	\$1,179 million	\$465 million	\$17 million
Percent <sup>2</sup> .....	0	71	28	1

<sup>1</sup> Estimated.

<sup>2</sup> Based on percentage share of production.

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	7,539	6,839	1969	739	670	1969
Nickel.....	61	55	1969	0	0	1969
Manganese.....	NA	NA	1969	0	0	1969
Cobalt.....	NA	NA	1969	0	0	1969

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1970
Nickel.....	0	0	1970
Manganese.....	0	0	1970
Cobalt.....	0	0	1970

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[S= Sparse; NI= No information]

0-50 miles	50-200 miles	200-400 miles
NI	S	S

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## VIET-NAM, REPUBLIC OF (SOUTH)

Category: Open shelf.

Bordering water body: South China Sea.

Coastal length: 865 nautical miles.

Shelf area to 200-m depth: 95,600 sq nautical miles.

Margin: Area to 3,000-m depth, 151,400 sq nautical miles.

Area to 200 nautical miles, 188,400 sq nautical miles.

Geology: Coastal onshore, crystalline/sedimentary. Offshore, crystalline/sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, Au.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	7.4	1.0	1968	NA	NA	1972
Exports.....	0	0	1971	0	0	1971

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	IV	IV	IV	IV	IV

## 4A. Number of production and exploratory wells completed through 1971:

	Onshore		Offshore			Total		
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
	0	0	0	0	0	0	0	0

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

None at present. Government has announced interest in granting concessions.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	0	0	0	0
Percent.....	0	0	0	0

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	Negl	Negl	1971	0	0	1971
Nickel.....	Negl	Negl	1971	0	0	1971
Manganese.....	Negl	Negl	1971	0	0	1971
Cobalt.....	Negl	Negl	1971	0	0	1971

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1971
Nickel.....	0	0	1971
Manganese.....	0	0	1971
Cobalt.....	0	0	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[S = Sparse; NI = No information]

	0-50 miles	50-200 miles	200-400 miles
	NI	S	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## YEMEN (SANAA)

Category: Open shelf.

Bordering water body: Red Sea.

Coastal length: 244 nautical miles.

Shelf area to 200-m depth: 7,200 sq nautical miles.

Margin: Area to 3,000-m depth, 9,900 sq nautical miles.

Area to 200 nautical miles, 9,900 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none.

Onshore source deposits, none.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	1.6	0.2	1970	NA	NA	1970
Exports.....	0	0	1970	0	0	1970

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	0	0	0	0	0	0
1961.....	0	0	0	0	0	0
1962.....	0	0	0	0	0	0
1963.....	0	0	0	0	0	0
1964.....	0	0	0	0	0	0
1965.....	0	0	0	0	0	0
1966.....	0	0	0	0	0	0
1967.....	0	0	0	0	0	0
1968.....	0	0	0	0	0	0
1969.....	0	0	0	0	0	0
1970.....	0	0	0	0	0	0
1971.....	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	0	0	0	0	0

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971....	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	0	0	0	0	0	0

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	VI	IV	IV	VI	IV	IV

## 4A. Number of production and exploratory wells completed through 1971:

	Onshore		Offshore			Total	
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
	0	0	0	0	0	0	0

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

One joint exploration venture within 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	NA	NA	NA	NA
Percent.....	NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	0	0	1969	0	0	1969
Nickel.....	0	0	1969	0	0	1969
Manganese.....	0	0	1969	0	0	1969
Cobalt.....	0	0	1969	0	0	1969

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	0	0	1969
Nickel.....	0	0	1969
Manganese.....	0	0	1969
Cobalt.....	0	0	1969

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI=No information].		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## YUGOSLAVIA

Category: Shelf locked.

Bordering water body: Mediterranean Sea.

Coastal length: 426 nautical miles.

Shelf area to 200-m depth: 10,700 sq nautical miles.

Margin: Area to 3,000-m depth, 15,300 sq nautical miles. Area to 200 nautical miles, 15,300 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, Cu, Fe, cr.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports.....	40.6	5.6	1970	Negl	Negl	1970
Exports.....	4.4	.6	1970	0.7	Negl	1970

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	6.7	0	6.7	0.9	0	0.9
1961.....	9.6	0	9.6	1.3	0	1.3
1962.....	11.1	0	11.1	1.5	0	1.5
1963.....	11.9	0	11.9	1.6	0	1.6
1964.....	13.3	0	13.3	1.8	0	1.8
1965.....	15.6	0	15.6	2.1	0	2.1
1966.....	16.3	0	16.3	2.2	0	2.2
1967.....	17.8	0	17.8	2.4	0	2.4
1968.....	18.5	0	18.5	2.5	0	2.5
1969.....	20.0	0	20.0	2.7	0	2.7
1970.....	21.5	0	21.5	2.9	0	2.9
1971.....	22.2	0	22.2	3.0	0	3.0

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960.....	3.5	0	3.5	0.1	0	0.1
1961.....	3.5	0	3.5	.1	0	.1
1962.....	3.5	0	3.5	.1	0	.1
1963.....	7.1	0	7.1	.2	0	.2
1964.....	10.6	0	10.6	.3	0	.3
1965.....	10.6	0	10.6	.3	0	.3
1966.....	14.1	0	14.1	.4	0	.4
1967.....	17.7	0	17.7	.5	0	.5
1968.....	21.2	0	21.2	.6	0	.6
1969.....	24.7	0	24.7	.7	0	.7
1970.....	35.3	0	35.3	1.0	0	1.0
1971.....	42.4	0	42.4	1.2	0	1.2

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1943-71.....	205	0	205	28	0	28

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960-71.....	212	0	212	6	0	6

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	315	0	315	43	0	43

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971.....	1,800	0	1,800	50	0	50

## 3B. Potential resources (ultimate recoverable resources):

Category.....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	IV	V	IV	IV	IV	IV

## 4A. Number of production and exploratory wells completed in 1971:

Onshore		Offshore			Total		
Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
>10	≥5	0	1	0	>10	≥6	>16

## 4B. Number of wells producing in 1971:

Not available.

## 5. Instances of licensing for offshore exploration for oil and gas:

The Yugoslavian State Oil Agency is the only company licensed for offshore exploration, all within 200-m depth.

## 6. Investment in oil and gas exploitation 1972-75:

	By local companies	By U.S. companies	By companies of other countries	By government
Amount.....	0	0	0	\$118 million
Percent.....	0	0	0	100

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper.....	172,950	166,200	1970	84,070	76,286	1970
Nickel.....	1,900	1,700	1970	119	108	1970
Manganese.....	53,957	48,949	1970	0	0	1970
Cobalt.....	101	92	1970	0	0	1970

<sup>1</sup> Estimated.

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper.....	102,065	92,592	1971
Nickel.....	NA	NA	1971
Manganese.....	17,764	16,115	1971
Cobalt.....	NA	NA	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI = No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

None.

## ZAIRE

Category: Open shelf.

Bordering water body: Atlantic Ocean.

Coastal length: 22 nautical miles.

Shelf area to 200-m depth: 300 sq nautical miles.

Margin: Area to 3,000-m depth, 300 sq nautical miles. Area to 200 nautical miles, 300 sq nautical miles.

Geology: Coastal onshore, sedimentary. Offshore, sedimentary.

Coastal and offshore placers: Active, none. Known, none. Onshore source deposits, d.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal of bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports -----	5.4	0.7	1970	NA	NA	1970
Exports -----	1.5	.2	1970	0	0	1970

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	SI	SI	0	SI	SI

	Natural gas (gross production)					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 -----	0	0	0	0	0	0
1961 -----	0	0	0	0	0	0
1962 -----	0	0	0	0	0	0
1963 -----	0	0	0	0	0	0
1964 -----	0	0	0	0	0	0
1965 -----	0	0	0	0	0	0
1966 -----	0	0	0	0	0	0
1967 -----	0	0	0	0	0	0
1968 -----	0	0	0	0	0	0
1969 -----	0	0	0	0	0	0
1970 -----	0	0	0	0	0	0
1971 -----	0	0	0	0	0	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	SI	SI	0	SI	SI

  

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 -----	0	0	0	0	0	0

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	500	500	0	60	60

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 -----	0	NA	NA	0	NA	NA

## 3B. Potential resources (ultimate recoverable resources):

Category -----	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	V	V	V	III	V	III

## 4A. Number of production and exploratory wells completed in 1971:

	Onshore		Offshore		Total		
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory
	0	1	0	3	0	0	4
							4

## 4B. Number of wells producing in 1971:

Zero and one SI offshore.

## 5. Instances of licensing for offshore exploration for oil and gas:

One concession granted to one joint venture, within 200-m depth.

## 6. Investment in oil and gas exploration and exploitation through 1971:

Amount Percent -----	By local companies	By U.S. companies	By companies of other countries	By government
		NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
Copper -----	NA	NA	1968	351,000	318,422	1970
Nickel -----	NA	NA	1968	0	0	1968
Manganese -----	NA	NA	1968	1,382,000	1,346,545	1970
Cobalt -----	NA	NA	1968	6,272	5,690	1969

<sup>1</sup> Estimated.

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons	Metric tons	Year
Copper -----	449,000	407,326	1971
Nickel -----	0	0	1971
Manganese -----	427,000	387,368	1971
Cobalt -----	14,800	13,426	1971

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

[NI=No information]		
0-50 miles	50-200 miles	200-400 miles
NI	NI	NI

## 10. Instances of licensing for offshore exploration for hard minerals:

No information.

## ZAMBIA

Category: Landlocked.  
 Bordering water body: None.  
 Coastal length: None.  
 Shelf area to 200-m depth: None.  
 Margin: None.  
 Geology: Crystalline/sedimentary.  
 Coastal and offshore placers: None.

## 1. Imports and exports of oil and natural gas:

	Oil (including products)			Natural gas		
	Millions of 42-gal bbl	Millions of metric tons	Year	Billions of cubic feet	Billions of cubic meters	Year
Imports .....	3.5	0.5	1970	NA	NA	1970
Exports .....	0	0	1970	0	0	1970

## 2A. Annual production since 1960:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
1960 .....	0	---	0	0	---	0
1961 .....	0	---	0	0	---	0
1962 .....	0	---	0	0	---	0
1963 .....	0	---	0	0	---	0
1964 .....	0	---	0	0	---	0
1965 .....	0	---	0	0	---	0
1966 .....	0	---	0	0	---	0
1967 .....	0	---	0	0	---	0
1968 .....	0	---	0	0	---	0
1969 .....	0	---	0	0	---	0
1970 .....	0	---	0	0	---	0
1971 .....	0	---	0	0	---	0

## Natural gas (gross production)

	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	1960 .....	0	---	0	0	---	0
1961 .....	0	---	0	0	---	0
1962 .....	0	---	0	0	---	0
1963 .....	0	---	0	0	---	0
1964 .....	0	---	0	0	---	0
1965 .....	0	---	0	0	---	0
1966 .....	0	---	0	0	---	0
1967 .....	0	---	0	0	---	0
1968 .....	0	---	0	0	---	0
1969 .....	0	---	0	0	---	0
1970 .....	0	---	0	0	---	0
1971 .....	0	---	0	0	---	0

## 2B. Cumulative production:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
Through 1971 .....	0	---	0	0	---	0

## Natural gas

	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	Through 1971 .....	0	---	0	0	---

## 3A. Proved recoverable reserves:

	Oil					
	Millions of 42-gal bbl			Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 .....	0	---	0	0	---	0

## 3A. Proved recoverable reserves—Continued:

	Natural gas					
	Billions of cubic feet			Billions of cubic meters		
	Onshore	Offshore	Total	Onshore	Offshore	Total
As of 1971 .....	0	---	0	0	---	0

## 3B. Potential resources (ultimate recoverable resources):

Category .....	Oil			Natural gas		
	Onshore	Offshore	Total	Onshore	Offshore	Total
	V	---	V	V	---	V

## 4A. Number of production and exploratory wells completed in 1971:

	Onshore		Offshore		Total			
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
	0	0	---	---	---	0	0	0

## 4B. Number of wells producing in 1971:

Zero.

## 5. Instances of licensing for offshore exploration for oil and gas:

Landlocked.

## 6. Investment in oil and gas exploration and exploitation through 1971:

	By local companies		By U.S. companies		By companies of other countries		By government	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
Amount .....	NA	NA	NA	NA	NA	NA	NA	NA
Percent .....	NA	NA	NA	NA	NA	NA	NA	NA

## 7. Imports and exports of copper, nickel, manganese, and cobalt:

	Imports			Exports		
	Short tons	Metric tons	Year	Short tons	Metric tons	Year
	Copper .....	462	419	1969	694,000	629,587	1971
Nickel .....	0	0	1969	0	0	1971
Manganese .....	0	0	1969	1 33,000	1 29,937	1970
Cobalt .....	6	5	1969	1,750	1,588	1969

<sup>1</sup> Estimated.

## 8. Annual production of copper, nickel, manganese, and cobalt:

	Short tons		Metric tons		Year	
	Short tons	Metric tons	Short tons	Metric tons	Year	Year
Copper .....	700,000	635,030			1971	
Nickel .....	0	0			1970	
Manganese .....	33,000	29,937			1970	
Cobalt .....	2,293	2,080			1971	

## 9. Manganese nodule concentration within 50, 200, and 400 miles of coastline:

0-50 miles		50-200 miles		200-400 miles	
---	---	---	---	---	---

## 10. Instances of licensing for offshore exploration for hard minerals:

Landlocked.

## SUMMARY TABLES

TABLE 1.—Coastal and shelf characteristics, by continents, of countries bordered by oceans or inland seas

Continent and country	Coastal length (nautical miles)	Shelf area to 200-m depth (sq nautical miles)	Margin area to 3,000-m depth (sq nautical miles)	Margin area to 200 nautical miles (sq nautical miles)
<b>Africa:</b>				
Algeria	596	4,000	13,600	40,000
Angola	806	19,500	65,900	147,600
Cameroon	187	3,100	4,500	4,500
Congo (Brazzaville)	84	2,600	7,200	7,200
Egypt (U.A.R.)	1,307	10,900	28,900	50,600
Ethiopia	546	13,900	22,100	22,100
Gabon	399	13,400	40,900	62,300
Ghana	285	6,100	20,100	63,600
Guinea	190	11,200	15,300	20,700
Ivory Coast	274	3,000	15,700	30,500
Kenya	247	4,200	21,600	34,400
Liberia	290	5,700	19,600	67,000
Libya	910	24,400	60,100	60,100
Malagasy Republic	2,155	52,600	131,300	376,800
Mauritania	360	12,900	26,300	45,000
Mauritius	87	26,700	149,200	345,000
Morocco	895	18,100	42,100	81,100
Mozambique	1,352	30,400	77,900	163,900
Nigeria	415	13,500	37,700	61,500
Senegal	241	9,200	23,700	60,000
Sierra Leone	219	7,700	14,700	45,400
Somalia	1,596	17,700	106,200	228,300
South Africa	1,462	41,800	183,700	296,500
Sudan	387	6,500	26,500	26,700
Tanzania	669	12,000	41,600	65,100
Togo	26	300	300	300
Tunisia	555	14,800	25,000	25,000
Zaire	22	300	300	300
<b>Total</b>	<b>16,562</b>	<b>386,500</b>	<b>1,222,000</b>	<b>2,470,000</b>
<b>Asia:</b>				
Bahrain	68	1,500	1,500	1,500
Bangladesh	310	16,000	20,800	22,400
Burma	1,230	66,900	111,300	148,600
China, People's Republic of	3,492	230,100	281,000	281,000
China, Republic of (Taiwan)	470	23,500	39,900	114,400
Cyprus	290	1,900	11,900	29,000
India	2,759	131,800	339,700	587,600
Indonesia	19,784	809,600	1,229,800	1,577,300
Iran	990	31,200	45,400	45,400
Iraq	10	200	200	200
Israel	124	1,300	5,700	6,800
Japan	4,842	140,100	440,900	1,126,000
Korea, Republic of (South)	712	71,300	93,300	101,600
Kuwait	135	4,100	4,100	4,100
Lebanon	105	1,300	4,600	6,600
Malaysia	1,853	108,900	125,600	138,700
Oman	1,005	17,800	44,500	163,800
Pakistan	440	17,000	61,400	92,900
Philippines	6,997	52,000	65,000	551,400
Qatar	204	7,000	7,000	7,000
Saudi Arabia	1,336	22,700	54,600	54,900
Singapore	28	100	100	100
Sri Lanka (Ceylon)	650	7,800	26,900	150,900
Thailand	1,299	75,100	94,700	94,700
Turkey	1,921	14,700	69,000	69,000
Union of Soviet Socialist Republics	23,098	364,300	735,900	1,309,500
United Arab Emirates	420	17,300	17,300	17,300
Viet-Nam, Republic of (South)	865	95,600	151,400	188,400
Yemen (Sanaa)	244	7,200	9,900	9,900
<b>Total</b>	<b>75,681</b>	<b>2,338,300</b>	<b>4,093,400</b>	<b>6,901,000</b>

TABLE 1.—Coastal and shelf characteristics, by continents, of countries bordered by oceans or inland seas—Continued

Continent and country	Coastal length (nautical miles)	Shelf area to 200-m depth (sq nautical miles)	Margin area to 3,000-m depth (sq nautical miles)	Margin area to 200 nautical miles (sq nautical miles)
<b>Oceania:</b>				
Australia	15,091	661,600	1,445,400	2,043,300
Fiji	100	600	1,000	330,900
New Zealand	2,770	70,800	571,100	1,409,500
<b>Total</b>	<b>17,961</b>	<b>733,000</b>	<b>2,017,500</b>	<b>3,783,700</b>
<b>Europe:</b>				
Albania	155	1,600	3,600	3,600
Belgium	34	800	800	800
Bulgaria	134	3,600	9,600	9,600
Denmark	686	20,000	20,000	20,000
Finland	735	23,600	28,600	28,600
France	1,373	43,100	75,800	99,500
Germany, Federal Republic of (West)	308	11,900	11,900	11,900
Greece	1,645	7,200	82,100	147,300
Iceland	1,080	39,000	252,000	252,800
Ireland	663	36,700	84,100	110,900
Italy	2,451	42,000	160,000	161,000
Malta	50	3,800	17,300	19,300
Netherlands	198	24,700	24,700	24,700
Norway	1,650	30,000	463,700	590,500
Poland	241	8,300	8,300	8,300
Portugal	743	11,400	44,800	517,400
Romania	113	7,100	9,300	9,300
Spain	2,038	49,700	158,200	355,600
Sweden	1,359	45,300	45,300	45,300
United Kingdom	2,790	143,500	281,800	274,800
Yugoslavia	426	10,700	15,300	15,300
<b>Total</b>	<b>18,872</b>	<b>569,000</b>	<b>1,797,200</b>	<b>2,706,500</b>
<b>North America:</b>				
Bahamas (U.K.)	1,500	25,000	75,000	221,400
Barbados	55	100	2,300	48,800
Canada	11,129	846,500	1,240,000	1,370,000
Costa Rica	446	4,600	15,100	75,500
Dominican Republic	325	5,300	28,900	78,400
El Salvador	164	5,200	12,300	26,800
Guatemala	178	3,600	8,200	28,900
Haiti	584	3,100	16,000	46,800
Honduras	374	15,600	43,900	58,600
Jamaica	280	11,700	59,000	86,800
Martinique and Guadeloupe	300	700	9,600	38,200
Mexico	4,848	128,900	343,000	831,500
Nicaragua	445	21,200	37,400	46,600
Panama	979	16,700	40,300	89,400
United States of America	11,650	545,400	862,600	2,222,000
<b>Total</b>	<b>33,257</b>	<b>1,633,600</b>	<b>2,793,600</b>	<b>5,269,700</b>
<b>South America:</b>				
Argentina	2,120	232,200	484,100	339,500
Brazil	3,692	224,100	435,700	924,000
Chile	2,822	8,000	167,900	667,300
Colombia	1,022	19,800	60,900	175,900
Ecuador	458	13,700	52,600	338,000
Guyana	232	14,600	28,300	38,000
Peru	1,258	24,100	48,900	229,400
Trinidad and Tobago	254	8,500	17,300	22,400
Uruguay	305	16,500	39,600	34,800
Venezuela	1,081	25,700	69,700	106,100
<b>Total</b>	<b>13,304</b>	<b>587,200</b>	<b>1,405,000</b>	<b>2,875,400</b>
<b>106 country total</b>	<b>175,637</b>	<b>6,247,600</b>	<b>13,328,700</b>	<b>24,006,300</b>

TABLE 2.—Annual oil production, in millions of metric tons, 1960-71

Continent and country	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
<b>Africa:</b>												
Algeria	8.8	15.8	20.5	23.9	26.5	26.7	34.0	38.6	42.9	44.8	48.1	36.3
Angola	.1	.1	.5	.8	.9	.7	.6	.5	.7	2.4	4.9	5.7
Botswana	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Cameroon	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Congo (Brazzaville)	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0
Egypt (U.A.R.)	3.5	3.8	4.7	5.6	6.3	6.6	6.4	5.7	9.0	12.9	17.2	15.5
Ethiopia	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Gabon	.8	.8	.8	.9	1.0	1.2	1.4	3.4	4.6	5.0	5.5	5.8
Ghana	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Guinea	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ivory Coast	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Kenya	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Liberia	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Libya	.0	.9	8.8	22.2	41.4	58.5	72.3	83.6	125.0	149.1	158.8	132.3
Malagasy Republic	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Malawi	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Mali	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Mauritania	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Mauritius	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Morocco	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0
Mozambique	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nigeria	.9	2.3	3.3	3.7	5.9	13.4	20.6	15.7	7.0	26.6	53.4	75.4
Rwanda	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Senegal	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Sierra Leone	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Somalia	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
South Africa	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Sudan	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Tanzania	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Togo	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Tunisia	.0	.0	.0	.0	.0	.0	.6	2.2	3.2	3.6	4.4	4.2
Uganda	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Upper Volta	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Zaire	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Zambia	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
<b>Total</b>	<b>14.3</b>	<b>23.9</b>	<b>38.8</b>	<b>57.3</b>	<b>82.2</b>	<b>107.3</b>	<b>136.1</b>	<b>149.9</b>	<b>192.6</b>	<b>244.5</b>	<b>292.3</b>	<b>275.2</b>
<b>Asia:</b>												
Afghanistan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bahrain	2.2	2.2	2.2	2.2	2.5	2.8	3.1	3.5	3.8	3.8	3.8	3.7
Bangladesh	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Burma	.5	.6	.6	.6	.6	.5	.6	.6	.8	.9	.8	.9
China, People's Republic of	4.5	4.8	5.3	6.0	7.5	9.0	10.4	11.0	13.0	15.0	20.0	25.0
China, Republic of (Taiwan)	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1
Cyprus	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
India	.5	.5	1.1	1.7	2.3	3.0	4.6	5.8	6.0	6.9	7.1	7.4
Indonesia	20.8	21.1	22.8	22.5	23.3	24.3	23.0	25.3	30.0	36.9	42.4	44.3
Iran	52.3	58.6	65.4	73.0	83.9	93.4	104.6	128.6	141.0	167.1	189.6	224.2
Iraq	47.6	49.2	49.3	56.9	62.1	64.9	67.9	60.3	73.8	74.6	76.6	84.0
Israel	.0	.2	.2	.2	.2	.2	.2	1.2	2.0	2.5	4.4	6.0
Japan	.5	.7	.7	.7	.6	.7	.7	.7	.7	.7	.8	.7
Korea, Republic of (South)	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Kuwait	85.3	87.2	98.3	105.0	115.8	118.2	125.0	125.8	132.8	140.7	150.1	160.7
Lebanon	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Malaysia	.1	.1	.1	.1	.1	.1	.0	.0	.2	.4	.9	3.3
Nepal	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oman	.0	.0	.0	.0	.0	.0	.0	3.1	11.9	16.2	16.5	14.2
Pakistan	.3	.4	.4	.5	.5	.5	.5	.5	.5	.5	.5	.5
Philippines	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Qatar	8.2	8.4	8.8	9.1	10.1	10.9	13.7	15.4	16.1	16.3	17.2	20.4
Saudi Arabia	65.6	73.7	81.7	88.8	94.6	109.7	129.5	139.7	151.8	160.1	188.9	237.3
Singapore	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Sri Lanka (Ceylon)	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Thailand	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Turkey	.4	.4	.6	.7	.9	1.5	1.9	2.7	3.1	3.6	3.5	3.4
Union of Soviet Socialist Republics	147.9	166.1	186.2	206.1	223.6	242.9	265.1	288.1	309.2	328.0	352.5	369.5
United Arab Emirates	.0	.0	.8	2.3	8.9	13.6	17.4	18.6	24.1	29.4	37.7	51.2
Viet-Nam, Republic of (South)	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Yemen (Sanaa)	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
<b>Total</b>	<b>436.7</b>	<b>474.2</b>	<b>524.5</b>	<b>576.4</b>	<b>637.5</b>	<b>696.2</b>	<b>768.2</b>	<b>830.9</b>	<b>920.9</b>	<b>1,005.2</b>	<b>1,113.4</b>	<b>1,256.8</b>

TABLE 2.—Annual oil production, in millions of metric tons, 1960-71—Continued

Continent and country	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
<b>Oceania:</b>												
Australia	0.0	0.0	0.0	0.0	0.2	0.3	0.4	1.0	1.8	2.1	8.5	14.8
Fiji	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
New Zealand	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1
Total	0.0	0.0	0.0	0.0	0.2	0.3	0.4	1.0	1.8	2.1	8.6	14.9
<b>Europe:</b>												
Albania	0.8	0.8	0.8	0.8	0.8	0.9	0.9	1.0	1.1	1.4	1.5	1.5
Austria	2.4	2.4	2.4	2.6	2.7	2.9	2.6	2.7	2.7	2.8	2.8	2.5
Belgium	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Bulgaria	.2	.2	.2	.2	.2	.2	.4	.5	.5	.3	.3	.3
Czechoslovakia	.1	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2
Denmark	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Finland	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
France	1.9	2.1	2.3	2.5	2.8	3.0	2.9	2.8	2.7	2.5	2.3	1.9
Germany, Federal Republic of (West)	5.5	6.2	6.8	7.4	7.7	7.9	7.9	7.9	8.0	7.9	7.5	7.4
Greece	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Hungary	1.2	1.4	1.6	1.8	1.8	1.8	1.7	1.7	1.8	1.8	1.9	2.0
Iceland	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ireland	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Italy	2.0	2.0	1.8	1.8	2.7	2.2	1.8	1.6	1.5	1.5	1.4	1.3
Malta	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Netherlands	1.9	2.0	2.2	2.2	2.3	2.4	2.4	2.3	2.1	2.0	1.9	1.7
Norway	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3
Poland	.2	.2	.2	.2	.3	.3	.4	.5	.5	.4	.4	.4
Portugal	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Romania	11.5	11.6	11.8	12.2	12.4	12.6	12.8	13.2	13.3	13.2	13.4	13.5
Spain	.0	.0	.0	.0	.0	.0	.0	.1	.2	.2	.2	.1
Sweden	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Switzerland	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
United Kingdom	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1
Yugoslavia	.9	1.3	1.5	1.6	1.8	2.1	2.2	2.4	2.5	2.7	2.9	3.0
Total	28.7	30.5	31.9	33.6	35.8	36.6	36.3	37.0	37.2	37.0	36.8	36.2
<b>North America:</b>												
Bahamas (U.K.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Barbados	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Canada	25.5	29.7	32.9	34.7	37.0	39.9	43.1	47.3	51.1	55.3	62.1	66.3
Costa Rica	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dominican Republic	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
El Salvador	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Guatemala	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Haiti	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Honduras	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Jamaica	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Martinique and Guadeloupe	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Mexico	13.9	15.0	15.7	16.2	16.3	16.6	17.1	18.7	19.9	20.6	25.0	25.0
Nicaragua	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Panama	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
United States of America	391.9	402.2	411.0	425.1	431.5	443.5	471.3	502.9	521.5	533.7	555.9	552.8
Total	431.3	446.9	459.6	476.0	484.8	500.0	531.5	568.9	592.5	609.6	643.0	644.1
<b>South America:</b>												
Argentina	9.1	12.1	14.0	13.9	14.3	14.1	15.0	16.4	17.9	18.6	20.3	21.7
Bolivia	.4	.4	.4	.4	.4	.4	.7	1.8	1.9	1.8	1.1	1.7
Brazil	4.0	4.8	4.6	4.9	4.6	4.7	5.8	7.5	8.0	8.6	8.2	8.7
Chile	.9	1.2	1.5	1.7	1.8	1.6	1.6	1.6	1.8	1.7	1.6	1.7
Colombia	7.9	7.5	7.4	8.5	8.9	10.3	10.1	9.8	9.0	10.9	11.3	11.1
Ecuador	.4	.4	.3	.3	.4	.4	.3	.3	.2	.2	.2	.2
Guyana	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Peru	2.6	2.6	2.8	2.9	3.1	3.1	3.1	3.4	3.6	3.5	3.5	3.0
Trinidad and Tobago	6.0	7.0	7.0	7.0	7.0	7.0	8.0	9.0	10.0	8.0	7.0	7.0
Uruguay	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Venezuela	148.7	152.1	166.7	169.3	177.2	180.9	175.6	184.6	188.4	187.3	193.2	185.0
Total	180.0	188.1	204.7	208.9	217.7	222.5	220.2	234.4	240.8	240.6	246.4	240.1
120 country total	1,091.0	1,163.6	1,259.5	1,352.2	1,458.2	1,562.9	1,692.7	1,822.1	1,985.8	2,139.0	2,340.5	2,467.3

TABLE 3.—Annual natural gas production, in billions of cubic meters, 1960-71

[NA, information not available]

Continent and country	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
<b>Africa:</b>												
Algeria	NA	0.2	0.4	0.4	0.8	1.8	2.0	2.2	9.6	9.9	9.6	3.0
Angola	NA	NA	NA	NA	NA	NA	NA	NA	.1	.4	.8	1.1
Botswana	0.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Cameroon	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Congo (Brazzaville)	NA	NA	NA	NA	NA	NA	NA	NA	.0	.0	.0	.0
Egypt (U.A.R.)	NA	NA	NA	NA	NA	NA	NA	NA	.5	.8	1.0	1.1
Ethiopia	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Gabon	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0
Ghana	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Guinea	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ivory Coast	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Kenya	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Liberia	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Libya	.0	.0	.0	.0	6.5	8.6	10.2	11.8	17.6	18.9	20.1	15.8
Malagasy Republic	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Malawi	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Mali	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Mauritania	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Mauritius	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Morocco	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Mozambique	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nigeria	.1	.4	.5	.6	1.0	2.2	2.9	2.6	1.5	4.1	8.1	12.4
Rwanda	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Senegal	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Sierra Leone	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Somalia	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
South Africa	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Sudan	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Tanzania	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Togo	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Tunisia	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Uganda	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Upper Volta	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Zaire	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Zambia	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Total	0.1	0.6	0.9	1.0	8.3	12.6	15.1	16.6	29.3	34.1	39.7	33.4
<b>Asia:</b>												
Afghanistan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.6	2.2	2.7	2.7
Bahrain	NA	NA	NA	NA	NA	NA	NA	NA	.9	.9	.7	.5
Bangladesh	NA	NA	NA	NA	NA	NA	NA	NA	NA	.3	.6	.6
Burma	NA	NA	NA	NA	NA	NA	NA	NA	.0	.1	.1	.1
China, People's Republic of	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.4	4.2
China, Republic of (Taiwan)	.0	.0	.0	.1	.2	.3	.4	.5	.7	.9	.9	1.1
Cyprus	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
India	.1	.2	.2	.2	.4	.7	.8	1.2	1.3	1.4	1.4	1.4
Indonesia	2.6	2.7	2.9	2.9	3.1	.4	.5	.6	3.3	3.1	3.1	3.4
Iran	7.5	8.4	9.2	10.3	11.8	14.4	17.9	20.1	22.7	25.3	31.0	37.0
Iraq	NA	NA	NA	NA	NA	NA	NA	NA	6.0	6.0	6.0	6.0
Israel	NA	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.1
Japan	.4	.6	.9	1.4	1.3	1.3	1.3	1.3	1.4	1.5	1.7	2.4
Korea, Republic of (South)	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Kuwait	9.9	10.1	11.4	12.1	13.4	13.7	14.5	14.5	15.4	16.3	17.4	18.6
Lebanon	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Malaysia	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nepal	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oman	.0	.0	.0	.0	.0	.0	.0	.5	1.9	2.5	2.6	2.2
Pakistan	.7	.9	1.1	1.3	1.6	1.8	2.1	2.3	2.4	2.8	3.6	3.4
Philippines	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Qatar	1.0	1.0	1.1	1.1	1.2	1.3	1.7	1.9	2.0	2.1	2.1	2.5
Saudi Arabia	7.7	8.6	9.6	10.4	11.0	12.8	15.1	16.3	17.7	18.7	22.1	27.7
Singapore	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Sri Lanka (Ceylon)	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Thailand	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Turkey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	.6	NA
Union of Soviet Socialist Republics	50.0	64.0	79.0	96.0	109.0	129.0	145.0	159.0	171.0	183.0	198.0	212.0
United Arab Emirates	.0	.0	.1	.4	1.4	2.2	2.8	3.0	5.4	6.7	8.2	7.2
Viet-Nam, Republic of (South)	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Yemen (Sanaa)	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Total	79.9	96.5	115.5	136.2	154.4	178.0	202.2	221.6	253.8	273.9	314.3	333.1

TABLE 3.—Annual natural gas production, in billions of cubic meters, 1960-71—Continued

Continent and country	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
<b>Oceania:</b>												
Australia -----	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.5	2.2
Fiji -----	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
New Zealand -----	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.3
Total -----	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.6	2.5
<b>Europe:</b>												
Albania -----	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Austria -----	1.5	1.6	1.6	1.7	1.8	1.7	1.9	1.8	1.6	1.5	1.9	1.9
Belgium -----	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Bulgaria -----	NA	NA	NA	NA	NA	NA	.1	.1	.5	.5	.5	.4
Czechoslovakia -----	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0	1.0	1.0
Denmark -----	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Finland -----	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
France -----	4.4	6.0	7.0	7.5	8.0	7.9	7.9	8.6	8.6	9.8	10.2	8.1
Germany, Federal Republic of (West) -----	.5	.5	.6	.9	1.5	2.2	2.8	3.7	5.8	8.1	12.0	13.8
Greece -----	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Hungary -----	.3	.3	.3	.6	.8	1.1	1.6	2.0	2.7	3.2	3.5	3.7
Iceland -----	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ireland -----	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Italy -----	6.4	6.9	7.2	7.3	7.7	7.8	8.8	9.4	10.4	11.7	13.1	13.0
Malta -----	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Netherlands -----	.4	.5	.5	.6	.9	1.8	3.6	7.9	16.1	25.3	33.4	46.2
Norway -----	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Poland -----	.6	.8	.8	1.0	1.2	1.4	1.4	1.6	2.6	3.9	5.2	5.4
Portugal -----	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Romania -----	6.9	7.6	9.3	10.7	12.1	13.6	14.1	15.8	21.9	24.1	25.8	26.7
Spain -----	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Sweden -----	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Switzerland -----	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
United Kingdom -----	.0	.0	.0	.0	.0	.0	.0	.5	2.0	5.1	11.2	18.7
Yugoslavia -----	.1	.1	.1	.2	.3	.3	.4	.5	.6	.7	1.0	1.2
Total -----	21.1	24.3	27.4	30.5	34.3	37.9	42.6	51.9	72.8	94.9	118.8	140.1
<b>North America:</b>												
Bahamas (U.K.) -----	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Barbados -----	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Canada -----	14.8	18.0	25.3	28.1	32.1	35.0	38.0	41.7	48.0	56.0	64.5	70.8
Costa Rica -----	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dominican Republic -----	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
El Salvador -----	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Guatemala -----	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Haiti -----	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Honduras -----	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Jamaica -----	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Martinique and Guadeloupe -----	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Mexico -----	10.2	10.8	11.1	12.0	13.7	14.0	15.0	16.2	16.3	17.2	18.8	18.2
Nicaragua -----	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Panama -----	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
United States of America -----	427.0	438.0	454.0	481.0	494.0	509.0	539.0	573.0	604.0	642.0	674.0	683.0
Total -----	452.0	466.8	490.4	521.1	539.8	568.0	592.0	630.9	668.3	715.2	757.3	772.0
<b>South America:</b>												
Argentina -----	3.5	4.9	6.2	6.0	6.6	6.2	6.0	6.5	7.1	7.0	7.7	8.1
Bolivia -----	.0	.0	.0	.0	.0	.0	.0	.0	.9	.8	.8	2.3
Brazil -----	.6	.6	.5	.6	.5	.7	.8	.9	1.0	1.3	1.3	1.2
Chile -----	2.2	2.5	3.6	5.2	6.3	6.2	6.7	7.0	7.0	7.5	7.6	8.0
Colombia -----	2.3	2.2	2.2	2.4	2.4	2.7	2.8	2.8	2.7	2.9	3.0	2.4
Ecuador -----	NA	NA	NA	NA	NA	NA	NA	.2	.2	.2	.3	.1
Guyana -----	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Peru -----	1.3	1.3	1.4	1.4	1.7	1.8	1.8	1.9	2.1	2.1	2.1	1.9
Trinidad and Tobago -----	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	4.0	3.0	3.0
Uruguay -----	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Venezuela -----	31.6	33.1	36.3	37.5	39.3	40.8	41.3	45.8	46.3	47.4	48.4	47.6
Total -----	44.5	47.6	53.2	56.1	59.8	61.4	62.4	69.1	71.3	73.2	74.2	74.6
120 country total -----	597.6	635.8	687.4	744.9	796.6	847.9	914.3	990.1	1,095.5	1,191.6	1,305.9	1,355.7

TABLE 4.—Oil and natural gas production, 1960-71, onshore, offshore, and total

[Totals for onshore and offshore oil and gas production do not equal the total oil and gas production for many countries. This discrepancy results from the lack of data to determine, for certain years and countries, what part of total production was onshore and offshore. As a result, the total production figure is accurate whereas the onshore and offshore figures are accurate only to the extent that available production data could be divided into onshore and offshore production. ----, landlocked]

Continent and country	Oil (millions of metric tons)			Gas (billions of cubic meters)		
	Onshore	Offshore	Total	Onshore	Offshore	Total
<b>Africa:</b>						
Algeria	366.9	0.0	366.9	39.9	0.0	39.9
Angola	.7	5.0	17.9	.0	.0	2.4
Botswana	.0	----	.0	.0	----	.0
Cameroon	.0	.0	.0	.0	.0	.0
Congo (Brazzaville)	.9	.0	.9	.0	.0	.0
Egypt (U. A. R.)	39.6	6.4	97.2	3.4	.0	3.4
Ethiopia	.0	.0	.0	.0	.0	.0
Gabon	24.2	7.0	31.2	.0	.0	.1
Ghana	.0	.0	.0	.0	.0	.0
Guinea	.0	.0	.0	.0	.0	.0
Ivory Coast	.0	.0	.0	.0	.0	.0
Kenya	.0	.0	.0	.0	.0	.0
Liberia	.0	.0	.0	.0	.0	.0
Libya	852.9	.0	852.9	109.5	.0	109.5
Malagasy Republic	.0	.0	.0	.0	.0	.0
Malawi	.0	----	.0	.0	----	.0
Mali	.0	----	.0	.0	----	.0
Mauritania	.0	.0	.0	.0	.0	.0
Mauritius	.0	.0	.0	.0	.0	.0
Morocco	1.0	.0	1.0	.0	.0	.0
Mozambique	.0	.0	.0	.0	.0	.0
Nigeria	57.2	18.2	228.2	.0	.0	36.4
Rwanda	.0	----	.0	.0	----	.0
Senegal	.0	.0	.0	.0	.0	.0
Sierra Leone	.0	.0	.0	.0	.0	.0
Somalia	.0	.0	.0	.0	.0	.0
South Africa	.0	.0	.0	.0	.0	.0
Sudan	.0	.0	.0	.0	.0	.0
Tanzania	.0	.0	.0	.0	.0	.0
Togo	.0	.0	.0	.0	.0	.0
Tunisia	18.2	.0	18.2	.0	.0	.0
Uganda	.0	----	.0	.0	----	.0
Upper Volta	.0	----	.0	.0	----	.0
Zaire	.0	.0	.0	.0	.0	.0
Zambia	.0	----	.0	.0	----	.0
<b>Total</b>	<b>1,361.6</b>	<b>36.6</b>	<b>1,614.4</b>	<b>152.8</b>	<b>0.0</b>	<b>191.7</b>
<b>Asia:</b>						
Afghanistan	0.0	----	0.0	9.5	----	9.5
Bahrain	35.8	0.0	35.8	3.0	0.0	3.0
Bangladesh	.0	.0	.0	1.5	.0	1.5
Burma	8.0	.0	8.0	.3	.0	.3
China, People's Republic of	132.5	.0	132.5	.0	.0	15.6
China, Republic of (Taiwan)	.4	.0	.4	5.1	.0	5.1
Cyprus	.0	.0	.0	.0	.0	.0
India	46.9	.0	46.9	9.3	.0	9.3
Indonesia	336.4	.3	336.7	28.6	.0	28.6
Iran	195.3	28.9	1,381.7	.0	.0	215.6
Iraq	767.2	.0	767.2	24.0	.0	24.0
Israel	1.3	.0	17.3	.7	.0	.7
Japan	7.1	1.1	8.2	11.2	1.9	15.5
Korea, Republic of (South)	.0	.0	.0	.0	.0	.0
Kuwait	1,371.6	59.2	1,444.9	158.7	7.1	167.3
Lebanon	.0	.0	.0	.0	.0	.0
Malaysia	.6	4.4	5.4	.0	.0	.0
Nepal	.0	----	.0	.0	----	.0
Oman	61.9	.0	61.9	9.7	.0	9.7
Pakistan	5.6	.0	5.6	24.0	.0	24.0
Philippines	.0	.0	.0	.0	.0	.0
Qatar	44.2	10.7	155.1	5.4	1.3	19.0
Saudi Arabia	1,152.1	355.4	1,521.4	134.7	41.2	177.7
Singapore	.0	.0	.0	.0	.0	.0
Sri Lanka (Ceylon)	.0	.0	.0	.0	.0	.0
Thailand	.0	.0	.0	.0	.0	.0
Turkey	22.7	.0	22.7	.6	.0	.6
Union of Soviet Socialist Republics	353.5	11.0	3,085.2	.0	.0	1,595.0
United Arab Emirates	44.8	36.6	204.0	.0	.0	37.4
Viet-Nam, Republic of (South)	.0	.0	.0	.0	.0	.0
Yemen (Sanaa)	.0	.0	.0	.0	.0	.0
<b>Total</b>	<b>4,592.9</b>	<b>507.6</b>	<b>9,240.9</b>	<b>426.3</b>	<b>51.1</b>	<b>2,359.4</b>

TABLE 4.—Oil and natural gas production, 1960-71, onshore, offshore, and total—Continued

Continent and country	Oil (millions of metric tons)			Gas (billions of cubic meters)		
	Onshore	Offshore	Total	Onshore	Offshore	Total
<b>Oceania:</b>						
Australia -----	10.4	18.7	29.1	2.3	1.7	4.0
Fiji -----	.0	.0	.0	.0	.0	.0
New Zealand -----	.2	.0	.2	.4	.0	.4
Total -----	10.6	18.7	29.3	2.7	1.7	4.4
<b>Europe:</b>						
Albania -----	12.3	0.0	12.3	0.0	0.0	0.0
Austria -----	31.5	---	31.5	20.5	---	20.5
Belgium -----	.0	.0	.0	.0	.0	.0
Bulgaria -----	3.5	.0	3.5	2.2	.0	2.2
Czechoslovakia -----	2.3	---	2.3	3.0	---	3.0
Denmark -----	.0	.0	.0	.0	.0	.0
Finland -----	.0	.0	.0	.0	.0	.0
France -----	29.7	.0	29.7	94.0	.0	94.0
Germany, Federal Republic of (West) -----	88.1	.0	88.1	52.4	.0	52.4
Greece -----	.0	.0	.0	.0	.0	.0
Hungary -----	20.5	---	20.5	20.1	---	20.1
Iceland -----	.0	.0	.0	.0	.0	.0
Ireland -----	.0	.0	.0	.0	8.5	.0
Italy -----	.0	.0	21.6	88.2	8.5	109.7
Malta -----	.0	.0	.0	.0	.0	.0
Netherlands -----	25.4	.0	25.4	137.2	.0	137.2
Norway -----	.0	.3	.3	.0	.0	.0
Poland -----	4.0	.0	4.0	25.9	.0	25.9
Portugal -----	.0	.0	.0	.0	.0	.0
Romania -----	151.5	.0	151.5	188.6	.0	188.6
Spain -----	.8	.0	.8	.0	.0	.0
Sweden -----	.0	.0	.0	.0	.0	.0
Switzerland -----	.0	---	.0	.0	---	.0
United Kingdom -----	1.2	.0	1.2	.2	37.3	37.5
Yugoslavia -----	24.9	.0	24.9	5.5	.0	5.5
Total -----	395.7	0.3	417.6	637.8	45.8	696.6
<b>North America:</b>						
Bahamas (U. K.) -----	0.0	0.0	0.0	0.0	0.0	0.0
Barbados -----	.0	.0	.0	.0	.0	.0
Canada -----	524.9	.0	524.9	472.3	.0	472.3
Costa Rica -----	.0	.0	.0	.0	.0	.0
Dominican Republic -----	.0	.0	.0	.0	.0	.0
El Salvador -----	.0	.0	.0	.0	.0	.0
Guatemala -----	.0	.0	.0	.0	.0	.0
Haiti -----	.0	.0	.0	.0	.0	.0
Honduras -----	.0	.0	.0	.0	.0	.0
Jamaica -----	.0	.0	.0	.0	.0	.0
Martinique and Guadeloupe -----	.0	.0	.0	.0	.0	.0
Mexico -----	23.2	1.8	220.0	18.2	.0	173.5
Nicaragua -----	.0	.0	.0	.0	.0	.0
Panama -----	.0	.0	.0	.0	.0	.0
United States of America -----	5,151.8	491.5	5,643.3	5,973.0	545.0	6,518.0
Total -----	5,699.9	493.3	6,388.2	6,463.5	545.0	7,163.8
<b>South America:</b>						
Argentina -----	187.4	0.0	187.4	75.8	0.0	75.8
Bolivia -----	11.4	---	11.4	4.8	---	4.8
Brazil -----	74.1	.3	74.4	10.0	.0	10.0
Chile -----	18.7	.0	18.7	69.8	.0	69.8
Colombia -----	112.7	.0	112.7	30.8	.0	30.8
Ecuador -----	3.6	.0	3.6	1.0	.0	1.0
Guyana -----	.0	.0	.0	.0	.0	.0
Peru -----	31.4	5.8	37.2	18.5	2.3	20.8
Trinidad and Tobago -----	62.0	28.0	90.0	27.0	12.0	39.0
Uruguay -----	.0	.0	.0	.0	.0	.0
Venezuela -----	2,109.0	.0	2,109.0	495.4	.0	495.4
Total -----	2,610.3	34.1	2,644.4	733.1	14.3	747.4
120 country total -----	14,671.0	1,090.6	20,334.8	8,416.2	658.3	11,163.3

## SUMMARY PETROLEUM AND SELECTED MINERAL STATISTICS FOR 120 COUNTRIES

TABLE 5.—Production and exploratory wells completed in 1971, onshore, offshore, and total

[-----, landlocked; NA, information not available]

Continent and country	Onshore		Offshore			Total		
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	All wells
<b>Africa:</b>								
Algeria -----	84	25	0	0	0	84	25	109
Angola -----	19	15	7	14	0	26	29	55
Botswana -----	0	0	---	---	---	0	0	0
Cameroon -----	0	1	0	1	0	0	2	2
Congo (Brazzaville) -----	0	0	14	2	0	14	2	16
Egypt (U. A. R.) -----	15	22	6	0	0	21	22	43
Ethiopia -----	0	0	0	0	0	0	0	0
Gabon -----	NA	3	NA	8	0	33	11	44
Ghana -----	0	0	0	2	0	0	2	2
Guinea -----	0	0	0	0	0	0	0	0
Ivory Coast -----	0	0	0	0	0	0	0	0
Kenya -----	0	2	0	0	0	0	2	2
Liberia -----	0	0	0	4	0	0	4	4
Libya -----	46	39	0	2	0	46	41	87
Malagasy Republic -----	0	2	0	6	0	0	8	8
Malawi -----	0	0	---	---	---	0	0	0
Mali -----	0	0	---	---	---	0	0	0
Mauritania -----	0	0	0	0	0	0	0	0
Mauritius -----	0	0	0	0	0	0	0	0
Morocco -----	1	6	0	2	0	1	8	9
Mozambique -----	0	3	0	3	0	0	6	6
Nigeria -----	NA	40	NA	15	0	172	55	227
Rwanda -----	0	0	---	---	---	0	0	0
Senegal -----	0	0	0	5	0	0	5	5
Sierra Leone -----	0	0	0	0	0	0	0	0
Somalia -----	0	0	0	0	0	0	0	0
South Africa -----	0	14	0	2	0	0	16	16
Sudan -----	0	0	0	0	0	0	0	0
Tanzania -----	0	0	0	0	0	0	0	0
Togo -----	0	0	0	1	0	0	1	0
Tunisia -----	3	11	0	2	0	3	13	16
Uganda -----	0	0	---	---	---	0	0	0
Upper Volta -----	0	0	---	---	---	0	0	0
Zaire -----	0	1	0	3	0	0	4	4
Zambia -----	0	0	---	---	---	0	0	0
<b>Total -----</b>	<b>168</b>	<b>184</b>	<b>27</b>	<b>72</b>	<b>0</b>	<b>400</b>	<b>256</b>	<b>655</b>
<b>Asia:</b>								
Afghanistan -----	NA	NA	---	---	---	NA	NA	6
Bahrain -----	7	0	0	0	0	7	0	7
Bangladesh -----	NA	NA	NA	NA	NA	NA	NA	NA
Burma -----	NA	NA	NA	NA	NA	NA	NA	NA
China, People's Republic of -----	NA	NA	NA	NA	NA	NA	NA	NA
China, Republic of (Taiwan) -----	2	10	0	0	0	2	10	12
Cyprus -----	0	0	0	0	0	0	0	0
India -----	37	21	0	1	0	37	22	49
Indonesia -----	145	62	7	73	0	152	135	287
Iran -----	NA	6	9	4	0	55	10	65
Iraq -----	17	0	0	0	0	17	0	17
Israel -----	1	4	0	2	0	1	6	7
Japan -----	NA	0	NA	4	0	9	4	13
Korea, Republic of (South) -----	0	0	0	0	0	0	0	0
Kuwait -----	8	2	6	0	0	14	2	16
Lebanon -----	0	0	0	0	0	0	0	0
Malaysia -----	NA	NA	NA	12	0	NA	21	21
Nepal -----	0	0	---	---	---	0	0	0
Oman -----	44	NA	0	NA	0	44	11	55
Pakistan -----	NA	4	0	0	0	NA	4	4
Philippines -----	0	15	0	2	0	0	17	17
Qatar -----	0	1	0	4	0	0	5	5
Saudi Arabia -----	50	7	6	0	0	56	7	63
Singapore -----	0	0	0	0	0	0	0	0
Sri Lanka (Ceylon) -----	0	0	0	0	0	0	0	0
Thailand -----	NA	1	0	1	0	NA	2	2
Turkey -----	28	22	0	2	0	28	24	52
Union of Soviet Socialist Republics -----	NA	NA	NA	NA	NA	NA	NA	NA
United Arab Emirates -----	15	9	12	8	0	27	17	44
Viet-Nam, Republic of (South) -----	0	0	0	0	0	0	0	0
Yemen (Sanaa) -----	0	0	0	0	0	0	0	0
<b>Total -----</b>	<b>354</b>	<b>164</b>	<b>40</b>	<b>* 113</b>	<b>0</b>	<b>449</b>	<b>297</b>	<b>752</b>

TABLE 5.—Production and exploratory wells completed in 1971, onshore, offshore, and total—Continued

Continent and country	Onshore		Offshore			Total		All wells
	Pro-duction	Explor-atory	Pro-duction	Explor-atory, <200 m	Explor-atory, >200 m	Pro-duction	Explor-atory	
<b>Oceania:</b>								
Australia	13	45	18	19	1	31	65	96
Fiji	0	0	0	0	0	0	0	0
New Zealand	0	9	0	0	0	0	9	9
Total	13	54	18	19	1	31	74	105
<b>Europe:</b>								
Albania	NA	NA	NA	NA	NA	NA	NA	NA
Austria	28	25	---	---	---	28	25	53
Belgium	0	0	0	0	0	0	0	0
Bulgaria	NA	NA	NA	NA	NA	NA	NA	NA
Czechoslovakia	NA	NA	---	---	---	NA	NA	NA
Denmark	0	0	2	3	0	2	3	5
Finland	0	0	0	0	0	0	0	0
France	5	7	0	0	0	5	7	12
Germany, Federal Republic of (West)	35	27	0	0	0	35	27	62
Greece	0	0	0	1	0	0	1	1
Hungary	NA	NA	---	---	---	NA	NA	NA
Iceland	0	0	0	0	0	0	0	0
Ireland	0	4	0	3	0	0	7	7
Italy	31	23	22	16	0	53	39	92
Malta	0	0	0	1	0	0	1	1
Netherlands	50	14	5	15	0	55	29	84
Norway	0	0	1	13	0	1	13	14
Poland	NA	NA	NA	NA	NA	NA	NA	NA
Portugal	0	0	0	0	0	0	0	0
Romania	NA	NA	NA	NA	NA	NA	NA	NA
Spain	0	9	3	2	0	3	11	14
Sweden	0	4	0	0	0	0	4	4
Switzerland	0	0	---	---	---	0	0	0
United Kingdom	1	10	41	22	0	42	32	74
Yugoslavia	11	5	0	1	0	11	6	17
Total	161	128	74	77	0	235	205	440
<b>North America:</b>								
Bahamas (U. K.)	0	0	0	1	0	0	1	1
Barbados	0	2	0	0	0	0	2	2
Canada	1,544	1,534	0	19	0	1,544	1,553	3,097
Costa Rica	0	0	0	0	0	0	0	0
Dominican Republic	0	0	0	0	0	0	0	0
El Salvador	0	0	0	0	0	0	0	0
Guatemala	0	0	0	0	0	0	0	0
Haiti	0	0	0	0	0	0	0	0
Honduras	0	0	0	1	0	0	1	1
Jamaica	0	1	0	0	0	0	1	1
Martinique and Guadeloupe	0	0	0	0	0	0	0	0
Mexico	387	118	0	1	0	387	119	506
Nicaragua	0	0	0	3	0	0	3	3
Panama	0	1	0	0	0	0	1	1
United States of America	18,333	6,602	596	311	9	18,929	6,922	25,851
Total	20,264	8,258	596	336	9	20,860	8,603	29,463
<b>South America:</b>								
Argentina	459	136	0	9	0	459	145	604
Bolivia	14	4	---	---	---	14	4	18
Brazil	80	59	8	28	0	88	87	175
Chile	61	20	0	0	0	61	20	81
Colombia	68	14	0	3	0	68	17	85
Ecuador	16	9	0	6	0	16	15	31
Guyana	0	0	0	1	0	0	1	1
Peru	71	NA	29	NA	NA	100	26	126
Trinidad and Tobago	178	21	7	14	0	185	35	220
Uruguay	0	0	0	0	0	0	0	0
Venezuela	462	44	0	0	0	462	44	506
Total	1,409	307	44	61	0	1,453	394	1,847
120 country total	22,369	9,095	799	678	10	23,428	9,829	33,262

TABLE 6.—Oil proved reserves and potential resources, onshore, offshore, and total

[The totals for onshore and offshore oil reserves do not equal the total crude oil proved reserves for some countries. This discrepancy results from the lack of data to determine, for certain years and countries, what part of total reserves was onshore and offshore. As a result, the total reserve figure is accurate whereas the onshore and offshore figures are accurate only to the extent that available reserve data could be divided into onshore and offshore reserves. Resources category: 1=150,000–1,500,000 million metric tons; 2=15,000–150,000; 3=1,500–15,000; 4=150–1,500; 5=15–150; 6=1.5–15; and 0=0. ----, landlocked; NA, information not available]

Continent and country	Reserves (millions of metric tons)			Resources category		
	Onshore	Offshore	Total	Onshore	Offshore	Total
<b>Africa:</b>						
Algeria	1,590.0	0.0	1,590.0	2	0	2
Angola	1.0	167.0	168.0	4	4	4
Botswana	.0	----	.0	6	----	6
Cameroon	.0	.0	.0	5	5	4
Congo (Brazzaville)	70.0	370.0	440.0	4	5	4
Egypt (U. A. R.)	NA	NA	570.0	4	3	3
Ethiopia	.0	.0	.0	5	5	5
Gabon	80.0	20.0	100.0	4	4	3
Ghana	.0	.1	.1	5	4	4
Guinea	.0	.0	.0	5	5	5
Ivory Coast	.0	.0	.0	5	4	4
Kenya	.0	.0	.0	4	5	4
Liberia	.0	.0	.0	0	5	5
Libya	3,300.0	NA	3,300.0	2	2	2
Malagasy Republic	.0	.0	.0	4	4	4
Malawi	.0	----	.0	0	----	0
Mali	.0	----	.0	4	----	4
Mauritania	.0	.0	.0	4	4	4
Mauritius	.0	.0	.0	0	0	0
Morocco	.2	.0	.2	4	4	4
Mozambique	NA	NA	NA	4	4	4
Nigeria	1,331.0	248.0	1,579.0	3	3	3
Rwanda	.0	----	.0	0	----	0
Senegal	.0	.0	.0	4	4	4
Sierra Leone	.0	.0	.0	5	5	5
Somalia	.0	.0	.0	4	5	4
South Africa	NA	NA	NA	6	5	5
Sudan	.0	.0	.0	5	5	5
Tanzania	.0	.0	.0	4	5	4
Togo	.0	.0	.0	5	5	5
Tunisia	62.0	15.0	77.0	4	4	4
Uganda	.0	----	.0	0	----	0
Upper Volta	.0	----	.0	0	----	0
Zaire	.0	60.0	60.0	5	5	5
Zambia	.0	----	.0	5	----	5
<b>Total</b>	<b>6,434.2</b>	<b>880.1</b>	<b>7,884.3</b>			
<b>Asia:</b>						
Afghanistan	12.0	----	12.0	4	----	4
Bahrain	86.0	0.0	86.0	4	4	4
Bangladesh	NA	NA	NA	4	4	4
Burma	1.0	.0	1.0	3	4	3
China, People's Republic of	2,700.0	NA	2,700.0	3	4	3
China, Republic of (Taiwan)	3.0	.0	3.0	5	4	4
Cyprus	.0	.0	.0	5	4	4
India	128.0	.0	128.0	3	3	3
Indonesia	1,350.0	50.0	1,400.0	3	3	3
Iran	6,562.0	969.0	7,531.0	2	3	2
Iraq	4,840.0	.0	4,840.0	3	5	3
Israel	1.0	.0	1.0	4	4	4
Japan	2.0	2.0	4.0	4	4	4
Korea, Republic of (South)	.0	.0	.0	0	3	3
Kuwait	10,650.0	120.0	10,770.0	2	3	2
Lebanon	.0	.0	.0	5	4	4
Malaysia	NA	NA	120.0	3	3	3
Nepal	.0	----	.0	5	----	5
Oman	NA	NA	700.0	3	4	3
Pakistan	5.0	.0	5.0	3	4	3
Philippines	.0	.0	.0	4	4	3
Qatar	NA	NA	730.0	3	3	3
Saudi Arabia	12,972.0	8,488.0	21,460.0	2	2	2
Singapore	.0	.0	.0	0	5	5
Sri Lanka (Ceylon)	.0	.0	.0	0	5	5
Thailand	.1	.0	.1	4	4	4
Turkey	80.0	.0	80.0	4	4	4
Union of Soviet Socialist Republics	10,010.0	190.0	10,200.0	2	2	2
United Arab Emirates	2,121.0	595.0	2,716.0	3	3	3
Viet-Nam, Republic of (South)	.0	.0	.0	4	4	4
Yemen (Sanaa)	.0	.0	.0	6	4	4
<b>Total</b>	<b>51,523.1</b>	<b>10,414.0</b>	<b>63,537.1</b>			

TABLE 6.—Oil proved reserves and potential resources, onshore, offshore, and total—Continued

Continent and country	Reserves (millions of metric tons)			Resources category		
	Onshore	Offshore	Total	Onshore	Offshore	Total
<b>Oceania:</b>						
Australia -----	30.0	349.0	379.0	3	3	3
Fiji -----	.0	.0	.0	5	5	5
New Zealand -----	4.0	24.0	28.0	5	5	5
Total -----	34.0	373.0	407.0			
<b>Europe:</b>						
Albania -----	3.0	0.0	3.0	3	4	3
Austria -----	27.0	---	27.0	4	---	4
Belgium -----	.0	.0	.0	5	4	4
Bulgaria -----	38.0	.0	38.0	4	4	4
Czechoslovakia -----	NA	---	NA	4	---	4
Denmark -----	.0	34.0	34.0	4	4	4
Finland -----	.0	.0	.0	0	5	5
France -----	13.0	.0	13.0	4	4	4
Germany, Federal Republic of (West) -----	82.0	.0	82.0	4	4	4
Greece -----	.0	.0	.0	5	4	4
Hungary -----	130.0	---	130.0	4	---	4
Iceland -----	.0	.0	.0	0	0	0
Ireland -----	.0	.0	.0	5	5	5
Italy -----	20.0	13.0	33.0	4	4	4
Malta -----	.0	.0	.0	6	4	4
Netherlands -----	37.0	.0	37.0	4	4	3
Norway -----	.0	960.0	960.0	0	3	3
Poland -----	5.0	.0	5.0	4	5	4
Portugal -----	.0	.0	.0	6	5	5
Romania -----	116.0	.0	116.0	4	4	4
Spain -----	NA	NA	42.0	4	4	4
Sweden -----	.0	.0	.0	6	5	5
Switzerland -----	.0	---	.0	5	---	5
United Kingdom -----	480.0	210.0	690.0	5	3	3
Yugoslavia -----	43.0	.0	43.0	4	5	4
Total -----	994.0	1,217.0	2,253.0			
<b>North America:</b>						
Bahamas (U. K.) -----	0.0	0.0	0.0	6	6	6
Barbados -----	.1	.0	.1	5	5	4
Canada -----	1,368.0	NA	1,368.0	3	3	3
Costa Rica -----	.0	.0	.0	6	5	5
Dominican Republic -----	.0	.0	.0	5	5	5
El Salvador -----	.0	.0	.0	0	5	5
Guatemala -----	.0	.0	.0	4	5	4
Haiti -----	.0	.0	.0	5	5	5
Honduras -----	.0	.0	.0	5	4	4
Jamaica -----	.0	.0	.0	5	4	4
Martinique and Guadeloupe -----	.0	.0	.0	0	0	0
Mexico -----	NA	NA	630.0	3	2	2
Nicaragua -----	.0	.0	.0	5	4	4
Panama -----	.0	.0	.0	5	4	4
United States of America -----	5,349.0	767.0	6,116.0	2	2	2
Total -----	6,717.1	767.0	8,114.1			
<b>South America:</b>						
Argentina -----	358.0	NA	358.0	3	3	3
Bolivia -----	25.0	---	25.0	3	---	3
Brazil -----	137.0	NA	137.0	4	4	4
Chile -----	15.0	.0	15.0	4	4	4
Colombia -----	236.0	.0	236.0	3	4	3
Ecuador -----	758.0	.0	758.0	3	4	3
Guyana -----	.0	.0	.0	4	5	4
Peru -----	NA	NA	50.0	3	4	3
Trinidad and Tobago -----	176.0	39.0	215.0	4	4	4
Uruguay -----	.0	.0	.0	5	5	4
Venezuela -----	1,984.0	NA	1,984.0	3	3	2
Total -----	3,689.0	39.0	3,778.0			
120 country total -----	69,391.4	13,690.0	85,973.5			

TABLE 7.—Natural gas proved reserves and potential resources, onshore, offshore, and total

[The totals for onshore and offshore gas reserves do not equal the total for gas reserves for some countries. This discrepancy results from the lack of data to determine, for certain years and countries, what part of the total reserves was onshore and offshore. As a result, the total reserve figure is accurate whereas the onshore and offshore gas figures are accurate only to the extent available reserve data could be divided into onshore and offshore reserves. Resources category: 1=30,000-300,000 billion cubic meters; 2=3,000-30,000; 3=300-3,000; 4=30-300; 5=3-30; 6=0.3-3; and 0=0. ----, landlocked; NA, information not available]

Continent and country	Reserves (billions of cubic meters)			Resources category		
	Onshore	Offshore	Total	Onshore	Offshore	Total
<b>Africa:</b>						
Algeria	3,000.0	0.0	3,000.0	2	0	2
Angola	NA	NA	40.0	3	3	3
Botswana	.0	----	.0	3	----	3
Cameroon	.4	.0	.4	4	4	4
Congo (Brazzaville)	NA	NA	.0	3	5	3
Egypt (U. A. R.)	210.0	NA	210.0	2	3	2
Ethiopia	.0	NA	NA	3	4	3
Gabon	NA	NA	180.0	3	3	3
Ghana	.0	NA	NA	4	4	4
Guinea	.0	.0	.0	4	4	4
Ivory Coast	.0	.0	.0	5	4	4
Kenya	.0	.0	.0	3	5	3
Liberia	.0	.0	.0	0	5	5
Libya	830.0	NA	830.0	2	2	2
Malagasy Republic	.0	.0	.0	4	4	4
Malawi	.0	----	.0	0	----	0
Mali	.0	----	.0	4	----	4
Mauritania	.0	.0	.0	4	4	4
Mauritius	.0	.0	.0	0	0	0
Morocco	.5	.0	.5	4	4	4
Mozambique	3.0	.0	3.0	3	5	3
Nigeria	840.0	280.0	1,120.0	3	3	3
Rwanda	.0	.0	.0	0	----	0
Senegal	.0	.0	.0	4	4	4
Sierra Leone	.0	.0	.0	5	5	5
Somalia	.0	.0	.0	5	5	5
South Africa	NA	NA	NA	3	4	3
Sudan	.0	.0	.0	5	5	5
Tanzania	.0	.0	.0	4	4	4
Togo	.0	.0	.0	5	5	5
Tunisia	43.0	.0	43.0	4	4	3
Uganda	.0	----	.0	0	----	0
Upper Volta	.0	----	.0	0	----	0
Zaire	.0	NA	NA	3	5	3
Zambia	.0	----	.0	5	----	5
<b>Total</b>	<b>4,926.9</b>	<b>280.0</b>	<b>5,426.9</b>			
<b>Asia:</b>						
Afghanistan	140.0	----	140.0	3	----	3
Bahrain	690.0	0.0	690.0	3	4	3
Bangladesh	250.0	.0	250.0	3	3	3
Burma	3.0	.0	3.0	3	3	3
China, People's Republic of	100.0	NA	100.0	2	3	2
China, Republic of (Taiwan)	17.0	.0	17.0	4	4	4
Cyprus	.0	.0	.0	5	4	4
India	42.0	.0	42.0	3	3	3
Indonesia	130.0	NA	130.0	2	3	2
Iran	NA	NA	5,700.0	2	2	2
Iraq	600.0	.0	600.0	2	5	2
Israel	2.0	.0	2.0	4	4	4
Japan	10.0	NA	10.0	3	4	3
Korea, Republic of (South)	.0	.0	.0	0	3	3
Kuwait	1,642.0	19.0	1,661.0	3	4	3
Lebanon	.0	.0	.0	5	4	4
Malaysia	NA	NA	210.0	3	3	3
Nepal	.0	----	.0	5	----	5
Oman	NA	NA	57.0	3	4	3
Pakistan	550.0	.0	550.0	3	4	3
Philippines	.0	.0	.0	4	3	3
Qatar	NA	NA	230.0	3	3	3
Saudi Arabia	1,300.0	300.0	1,600.0	2	2	2
Singapore	.0	.0	.0	0	5	5
Sri Lanka (Ceylon)	.0	.0	.0	0	5	5
Thailand	.0	.0	.0	4	4	4
Turkey	5.0	.0	5.0	4	4	4
Union of Soviet Socialist Republics	15,000.0	NA	15,000.0	2	2	1
United Arab Emirates	255.0	61.0	316.0	3	3	3
Viet-Nam, Republic of (South)	.0	.0	.0	4	4	4
Yemen (Sanaa)	.0	.0	.0	6	4	4
<b>Total</b>	<b>20,736.0</b>	<b>380.0</b>	<b>27,313.0</b>			

TABLE 7.—Natural gas proved reserves and potential resources, onshore, offshore, and total—Continued

Continent and country	Reserves (billions of cubic meters)			Resources category		
	Onshore	Offshore	Total	Onshore	Offshore	Total
<b>Oceania:</b>						
Australia	440.0	260.0	700.0	2	2	2
Fiji	.0	.0	.0	5	5	5
New Zealand	.0	170.0	170.0	4	3	3
<b>Total</b>	<b>440.0</b>	<b>430.0</b>	<b>870.0</b>			
<b>Europe:</b>						
Albania	200.0	0.0	200.0	4	4	3
Austria	16.0	---	16.0	4	---	4
Belgium	.0	.0	.0	5	4	4
Bulgaria	30.0	.0	30.0	4	4	4
Czechoslovakia	11.0	---	11.0	4	---	4
Denmark	.0	14.0	14.0	4	4	4
Finland	.0	.0	.0	0	5	5
France	190.0	.0	190.0	3	4	3
Germany, Federal Republic of (West)	390.0	.0	390.0	3	4	3
Greece	.0	NA	NA	5	4	4
Hungary	85.0	---	85.0	4	---	4
Iceland	.0	.0	.0	0	0	0
Ireland	.0	NA	NA	4	4	3
Italy	80.0	90.0	170.0	4	3	3
Malta	.0	.0	.0	6	4	4
Netherlands	2,350.0	NA	2,350.0	2	3	2
Norway	.0	280.0	280.0	0	3	3
Poland	140.0	.0	140.0	4	5	4
Portugal	.0	.0	.0	5	5	5
Romania	277.0	.0	277.0	3	4	3
Spain	4.0	11.0	15.0	4	5	4
Sweden	.0	.0	.0	6	5	5
Switzerland	.0	---	.0	5	---	5
United Kingdom	200.0	900.0	1,100.0	5	3	3
Yugoslavia	50.0	.0	50.0	4	4	4
<b>Total</b>	<b>4,023.0</b>	<b>1,295.0</b>	<b>5,318.0</b>			
<b>North America:</b>						
Bahamas (U. K.)	0.0	0.0	0.0	6	4	4
Barbados	NA	.0	NA	5	5	4
Canada	1,570.0	NA	1,570.0	2	3	2
Costa Rica	.0	.0	.0	6	4	4
Dominican Republic	.0	.0	.0	5	5	5
El Salvador	.0	.0	.0	0	5	5
Guatemala	.0	.0	.0	4	4	4
Haiti	.0	.0	.0	5	5	5
Honduras	.0	.0	.0	5	4	4
Jamaica	.0	.0	.0	5	4	4
Martinique and Guadeloupe	.0	.0	.0	0	0	0
Mexico	NA	NA	326.0	2	3	2
Nicaragua	.0	.0	.0	5	4	4
Panama	.0	.0	.0	5	4	4
United States of America	6,777.0	1,118.0	7,895.0	1	1	1
<b>Total</b>	<b>8,347.0</b>	<b>1,118.0</b>	<b>9,791.0</b>			
<b>South America:</b>						
Argentina	215.0	NA	215.0	3	3	3
Bolivia	140.0	---	140.0	2	---	2
Brazil	140.0	NA	140.0	2	3	2
Chile	62.0	.0	62.0	4	3	3
Colombia	70.0	.0	70.0	3	3	3
Ecuador	157.0	13.0	170.0	3	3	3
Guyana	.0	.0	.0	4	5	4
Peru	NA	NA	70.0	3	4	3
Trinidad and Tobago	.0	140.0	140.0	4	3	3
Uruguay	.0	.0	.0	4	4	4
Venezuela	720.0	NA	720.0	2	2	2
<b>Total</b>	<b>1,504.0</b>	<b>153.0</b>	<b>1,727.0</b>			
<b>120 country total</b>	<b>39,976.9</b>	<b>3,656.0</b>	<b>50,445.9</b>			

TABLE 8.—Offshore manganese nodule occurrences  
[M=moderate; S=sparse; N=no information]

Continent and country	0-50 miles	50-200 miles	200-400 miles
<b>Africa:</b>			
Algeria	N	N	N
Angola	N	N	N
Cameroon	N	N	N
Congo (Brazzaville)	N	N	N
Egypt (U. A. R.)	N	N	N
Ethiopia	N	N	N
Gabon	N	N	N
Ghana	N	N	N
Guinea	N	N	N
Ivory Coast	N	N	N
Kenya	N	N	N
Liberia	N	N	N
Libya	N	N	N
Malagasy Republic	N	N	S
Mauritania	N	N	N
Mauritius	N	S	N
Morocco	N	N	N
Mozambique	N	S	N
Nigeria	N	N	N
Senegal	N	N	N
Sierra Leone	N	N	N
Somalia	N	N	N
South Africa	N	S	M
Sudan	N	N	N
Tanzania	N	N	N
Togo	N	N	N
Tunisia	N	N	N
Zaire	N	N	N
<b>Asia:</b>			
Bahrain	N	N	N
Bangladesh	N	N	N
Burma	N	N	N
China, People's Republic of	N	N	S
China, Republic of (Taiwan)	N	N	N
Cyprus	N	S	N
India	S	S	N
Indonesia	N	S	N
Iran	N	N	N
Iraq	N	N	N
Israel	N	N	N
Japan	S	S	S
Korea, Republic of (South)	N	N	N
Kuwait	N	N	N
Lebanon	N	N	N
Malaysia	N	N	N
Oman	N	N	N
Pakistan	N	N	N
Philippines	N	S	S
Qatar	N	N	N
Saudi Arabia	N	N	N
Singapore	N	N	N
Sri Lanka (Ceylon)	N	N	N
Thailand	N	N	N
Turkey	N	N	N
Union of Soviet Socialist Republics	M	M	M
United Arab Emirates	N	N	N
Viet-Nam, Republic of (South)	N	S	N
Yemen (Sanaa)	N	N	N
<b>Oceania:</b>			
Australia	N	S	M
Fiji	S	N	S
New Zealand	N	N	S
<b>Europe:</b>			
Albania	N	N	N
Belgium	N	N	N
Bulgaria	N	N	N
Denmark	N	N	N
Finland	S	N	S
France	N	N	N
Germany, Federal Republic of (west)	N	N	S
Greece	N	N	N
Iceland	N	N	N
Ireland	N	N	N
Italy	N	S	N
Malta	N	N	N
Netherlands	N	N	N
Norway	N	N	N
Poland	M	M	M
Portugal	N	N	N
Romania	N	N	N

TABLE 8.—Offshore manganese nodule occurrences—Continued

Continent and country	0-50 miles	50-200 miles	200-400 miles
Spain	N	N	N
Sweden	M	M	M
United Kingdom	N	N	N
Yugoslavia	N	N	N
<b>North America:</b>			
Bahamas (U. K.)	N	M	M
Barbados	N	S	N
Canada	S	N	N
Costa Rica	N	N	N
Dominican Republic	N	M	M
El Salvador	N	N	N
Guatemala	N	N	N
Haiti	N	M	M
Honduras	N	M	S
Jamaica	N	S	S
Martinique and Guadeloupe	N	S	N
Mexico	M	M	M
Nicaragua	N	S	N
Panama	S	S	N
United States of America	N	M	M
<b>South America:</b>			
Argentina	N	N	S
Brazil	N	S	S
Chile	S	M	M
Colombia	N	S	S
Ecuador	S	S	S
Guyana	N	N	N
Peru	N	N	S
Trinidad and Tobago	N	N	S
Uruguay	N	N	N
Venezuela	N	S	S

TABLE 9.—Imports, exports, and production of copper in metric tons

[Data are for latest year available; NA, information not available]

Continent and country	Imports	Exports	Production
<b>Africa:</b>			
Algeria	2,877	505	574
Angola	640	4	200
Botswana	NA	NA	0
Cameroon	0	0	0
Congo (Brazzaville)	48	6,984	800
Egypt (U. A. R.)	1,702	87	5,191
Ethiopia	120	NA	0
Gabon	0	0	0
Ghana	837	0	0
Guinea	0	0	0
Ivory Coast	178	774	0
Kenya	585	0	73
Liberia	33	0	0
Libya	1,000	0	0
Malagasy Republic	178	0	0
Malawi	0	0	0
Mali	51	NA	NA
Mauritania	0	4,750	4,200
Mauritius	NA	0	0
Morocco	3,300	3,130	3,350
Mozambique	367	493	130
Nigeria	0	0	0
Rwanda	NA	0	0
Senegal	174	0	0
Sierra Leone	35	NA	0
Somalia	NA	NA	0
South Africa	25,330	145,950	169,804
Sudan	5	0	0
Tanzania	149	0	0
Togo	0	0	0
Tunisia	1,492	867	0
Uganda	177	15,632	14,350
Upper Volta	0	0	0
Zaire	NA	318,422	407,326
Zambia	419	629,587	635,030
Total	39,697	1,127,185	1,241,028
<b>Asia:</b>			
Afghanistan	NA	NA	NA
Bahrain	0	0	0
Bangladesh	NA	0	0
Burma	0	0	175
China, People's Republic of	63,200	NA	100,000
China, Republic of (Taiwan)	10,938	5,610	6,070
Cyprus	180	21,670	18,600
India	54,389	3,778	9,678

TABLE 9.—Imports, exports, and production of copper in metric tons—Continued

Continent and country	Imports	Exports	Production
<b>Asia—Continued:</b>			
Indonesia	1,345	0	0
Iran	9,141	840	720
Iraq	1,889	1,525	0
Israel	33,985	17,038	8,000
Japan	751,000	86,000	122,450
Korea, Republic of (South)	1,276	12	1,774
Kuwait	273	259	0
Lebanon	1,180	0	0
Malaysia	2,850	2,720	250
Nepal	NA	NA	NA
Oman	0	0	0
Pakistan	NA	0	0
Philippines	6,212	211,870	174,450
Qatar	0	0	0
Saudi Arabia	15	0	0
Singapore	2,710	1,000	0
Sri Lanka (Ceylon)	841	0	0
Thailand	4,900	NA	NA
Turkey	323	6,540	28,000
Union of Soviet Socialist Republics	11,580	150,500	616,760
United Arab Emirates	NA	NA	0
Viet-Nam, Republic of (South)	0	0	0
Yemen (Sanaa)	0	0	0
<b>Total</b>	<b>958,227</b>	<b>509,362</b>	<b>1,086,927</b>
<b>Oceania:</b>			
Australia	3,240	49,201	151,956
Fiji	76	800	428
New Zealand	11,250	5,188	67
<b>Total</b>	<b>14,566</b>	<b>55,189</b>	<b>152,451</b>
<b>Europe:</b>			
Albania	NA	3,000	5,400
Austria	45,112	7,009	2,654
Belgium	387,000	295,000	0
Bulgaria	5,087	6,276	44,398
Czechoslovakia	38,400	3,800	4,990
Denmark	32,918	8,818	0
Finland	19,529	18,355	28,120
France	393,780	98,284	389
Germany, Federal Republic of (West)	814,350	230,200	1,300
Greece	11,783	1,480	0
Hungary	NA	NA	1,180
Iceland	0	0	0
Ireland	8,775	9,600	8,332
Italy	289,688	43,500	2,500
Malta	44	0	0
Netherlands	120,444	63,475	0
Norway	20,700	32,400	17,000
Poland	33,560	29,087	71,000
Portugal	14,156	13,454	6,040
Romania	15,660	2,986	6,000
Spain	114,800	22,000	9,133
Sweden	111,500	78,000	23,130
Switzerland	61,629	29,040	0
United Kingdom	479,378	177,236	0
Yugoslavia	66,200	76,286	92,592
<b>Total</b>	<b>3,084,443</b>	<b>1,249,286</b>	<b>324,158</b>
<b>North America:</b>			
Bahamas (U. K.)	74	11	0
Barbados	NA	NA	0
Canada	11,655	407,228	648,191
Costa Rica	NA	NA	0
Dominican Republic	832	482	482
El Salvador	2	0	0
Guatemala	428	0	0
Haiti	NA	NA	NA
Honduras	NA	NA	0
Jamaica	747	29	0
Martinique and Guadeloupe	NA	0	0
Mexico	568	10,000	63,150
Nicaragua	1	4,900	3,630
Panama	NA	NA	NA
United States of America	326,000	236,000	1,391,000
<b>Total</b>	<b>340,307</b>	<b>658,650</b>	<b>2,106,453</b>
<b>South America:</b>			
Argentina	34,795	120	471
Bolivia	412	8,227	7,742
Brazil	53,482	951	4,799
Chile	0	688,000	684,800
Colombia	4,420	780	200
Ecuador	700	NA	544
Guyana	0	0	0
Peru	0	193,998	212,883
Trinidad and Tobago	454	0	0
Uruguay	0	0	0
Venezuela	6,839	670	0
<b>Total</b>	<b>101,102</b>	<b>892,756</b>	<b>911,439</b>
<b>120 country total</b>	<b>4,538,342</b>	<b>4,492,428</b>	<b>5,822,466</b>

TABLE 10.—Imports, exports, and production of nickel in metric tons

[Data are for latest year available; NA, information not available]			
Continent and country	Imports	Exports	Production
<b>Africa:</b>			
Algeria	5	0	0
Angola	NA	NA	0
Botswana	NA	NA	0
Cameroon	0	0	0
Congo (Brazzaville)	NA	NA	NA
Egypt (U. A. R.)	15	0	0
Ethiopia	NA	NA	0
Ghana	0	0	0
Guinea	0	0	0
Ivory Coast	NA	NA	0
Kenya	4	0	0
Liberia	0	0	0
Libya	0	0	0
Malagasy Republic	0	0	0
Malawi	0	0	0
Mali	4	NA	NA
Mauritania	0	0	0
Mauritius	NA	0	0
Morocco	0	0	138
Mozambique	3	0	0
Nigeria	0	0	0
Rwanda	NA	0	0
Senegal	2	0	0
Sierra Leone	NA	NA	0
Somalia	NA	NA	0
South Africa	474	7,668	12,757
Sudan	0	0	0
Tanzania	NA	0	0
Togo	0	0	0
Tunisia	0	0	0
Uganda	0	0	0
Upper Volta	0	0	0
Zaire	NA	0	0
Zambia	0	0	0
<b>Total</b>	<b>507</b>	<b>7,668</b>	<b>12,895</b>
<b>Asia:</b>			
Afghanistan	NA	NA	NA
Bahrain	0	0	0
Bangladesh	NA	0	0
Burma	0	0	94
China, People's Republic of	1,383	NA	0
China, Republic of (Taiwan)	310	0	0
Cyprus	0	0	0
India	3,558	5	0
Indonesia	0	18,000	19,800
Iran	62	0	0
Iraq	0	NA	0
Israel	223	447	0
Japan	107,500	1,230	0
Korea, Republic of (South)	1,423	43	0
Kuwait	NA	NA	0
Lebanon	0	0	0
Malaysia	36	0	0
Nepal	NA	NA	NA
Oman	0	0	0
Pakistan	NA	0	0
Philippines	24	207	222
Qatar	0	0	0
Saudi Arabia	0	0	0
Singapore	NA	NA	0
Sri Lanka (Ceylon)	0	0	0
Thailand	280	0	0
Turkey	95	0	0
Union of Soviet Socialist Republics	NA	NA	109,700
United Arab Emirates	NA	NA	0
Viet-Nam, Republic of (South)	0	0	0
Yemen (Sanaa)	0	0	0
<b>Total</b>	<b>114,894</b>	<b>19,932</b>	<b>129,816</b>
<b>Oceania:</b>			
Australia	1,539	NA	32,537
Fiji	NA	NA	0
New Zealand	278	7	0
<b>Total</b>	<b>1,817</b>	<b>7</b>	<b>32,537</b>
<b>Europe:</b>			
Albania	NA	NA	NA
Austria	2,142	247	0
Belgium	5,570	2,440	0
Bulgaria	124	7	0
Czechoslovakia	59	265	800
Denmark	66	159	0
Finland	363	3,401	3,630
France	22,120	9,015	0
Germany, Federal Republic of (West)	49,365	12,400	600
Greece	0	981	10,680
Hungary	NA	NA	NA
Iceland	0	0	0

TABLE 10.—Imports, exports, and production of nickel in metric tons—Continued

Continent and country	Imports	Exports	Pro- duction
<b>Europe—Continued:</b>			
Ireland	512	0	0
Italy	14,133	254	0
Malta	7	0	0
Netherlands	7,180	4,600	0
Norway	100,600	40,100	360
Poland	NA	NA	1,500
Portugal	390	41	0
Romania	363	NA	NA
Spain	4,300	58	NA
Sweden	22,113	2,540	NA
Switzerland	2,556	1,964	0
United Kingdom	84,069	45,742	0
Yugoslavia	1,700	108	NA
<b>Total</b>	<b>317,732</b>	<b>124,322</b>	<b>17,570</b>
<b>North America:</b>			
Bahamas (U. K.)	360	0	0
Barbados	NA	NA	0
Canada	34,794	258,270	266,665
Costa Rica	NA	NA	0
Dominican Republic	0	0	0
El Salvador	0	0	0
Guatemala	14	0	0
Haiti	NA	NA	0
Honduras	NA	NA	0
Jamaica	24	0	0
Martinique and Guadeloupe	NA	0	0
Mexico	1,800	0	0
Nicaragua	NA	NA	NA
Panama	NA	NA	NA
United States of America	128,960	19,951	14,000
<b>Total</b>	<b>165,952</b>	<b>278,221</b>	<b>280,665</b>
<b>South America:</b>			
Argentina	573	0	0
Bolivia	NA	NA	0
Brazil	1,007	98	2,505
Chile	115	0	0
Colombia	217	0	NA
Ecuador	0	NA	0
Guyana	0	0	0
Peru	48	0	0
Trinidad and Tobago	12	0	0
Uruguay	0	0	0
Venezuela	55	0	0
<b>Total</b>	<b>2,027</b>	<b>98</b>	<b>2,505</b>
<b>120 country total</b>	<b>602,929</b>	<b>430,248</b>	<b>475,988</b>

TABLE 11.—Imports, exports, and production of manganese in metric tons

[Data are for latest year available; NA, information not available]

Continent and country	Imports	Exports	Pro- duction
<b>Africa:</b>			
Algeria	NA	0	0
Angola	NA	27,477	29,070
Botswana	NA	9,998	35,603
Cameroun	NA	0	0
Congo (Brazzaville)	0	0	0
Egypt (U. A. R.)	1,346	0	4,000
Ethiopia	NA	NA	0
Gabon	0	1,868,579	1,858,579
Ghana	0	660,000	660,000
Guinea	0	0	0
Ivory Coast	NA	83,400	0
Kenya	0	0	0
Liberia	0	0	0
Libya	0	0	0
Malagasy Republic	0	0	0
Malawi	0	0	0
Mali	NA	NA	NA
Mauritania	0	0	0
Mauritius	NA	0	0
Morocco	0	91,203	101,456
Mozambique	NA	NA	0
Nigeria	0	0	0
Rwanda	NA	0	0
Senegal	1	0	0
Sierra Leone	NA	NA	0
Somalia	NA	NA	0
South Africa	1,925	2,681,443	3,418,173
Sudan	0	0	900
Tanzania	NA	0	0

TABLE 11.—Imports, exports, and production of manganese in metric tons—Continued

Continent and country	Imports	Exports	Pro- duction
<b>Africa—Continued:</b>			
Togo	0	0	0
Tunisia	0	0	0
Uganda	0	0	0
Upper Volta	0	0	0
Zaire	NA	346,545	387,368
Zambia	0	29,937	29,937
<b>Total</b>	<b>3,272</b>	<b>5,798,582</b>	<b>6,525,086</b>
<b>Asia:</b>			
Afghanistan	NA	NA	NA
Bahrain	0	0	0
Bangladesh	NA	0	0
Burma	0	0	112
China, People's Republic of	0	26,555	1,000,000
China, Republic of (Taiwan)	1,565	220	0
Cyprus	0	0	0
India	3,346	1,285,218	1,779,000
Indonesia	NA	11,900	11,958
Iran	800	9,144	36,000
Iraq	NA	NA	0
Israel	220	0	0
Japan	2,584,000	2,947,000	271,000
Korea, Republic of (South)	25,632	NA	2,263
Kuwait	NA	NA	0
Lebanon	0	0	0
Malaysia	2,620	45,670	10,334
Nepal	NA	NA	NA
Oman	0	0	0
Pakistan	0	0	90
Philippines	4,410	4,561	5,133
Qatar	0	0	0
Saudi Arabia	0	0	0
Singapore	9,062	2,082	0
Sri Lanka (Ceylon)	0	0	0
Thailand	890	7,860	14,000
Turkey	0	4,393	9,494
Union of Soviet Socialist Republics	0	1,355,000	7,300,000
United Arab Emirates	NA	NA	0
Viet-Nam, Republic of (South)	0	0	0
Yemen (Sanaa)	0	0	0
<b>Total</b>	<b>2,632,445</b>	<b>5,699,603</b>	<b>10,439,384</b>
<b>Oceania:</b>			
Australia	6,620	793,530	751,500
Fiji	NA	11,000	24,000
New Zealand	804	0	0
<b>Total</b>	<b>7,424</b>	<b>804,530</b>	<b>775,500</b>
<b>Europe:</b>			
Albania	NA	NA	NA
Austria	1,048	351	83,000
Belgium	363,100	11,350	0
Bulgaria	80,090	NA	30,000
Czechoslovakia	414,100	NA	90,000
Denmark	10,374	3	0
Finland	56,619	NA	0
France	976,132	17,300	2,602
Germany, Federal Republic of (West)	725,000	2,745	0
Greece	0	4,750	6,127
Hungary	NA	5,852	166,000
Iceland	0	0	0
Ireland	0	0	0
Italy	175,000	0	50,000
Malta	0	0	0
Netherlands	58,770	29,573	0
Norway	626,700	NA	0
Poland	393,842	0	0
Portugal	599	5,795	4,751
Romania	NA	48,100	127,000
Spain	173,993	19	10,436
Sweden	114,791	513	8,800
Switzerland	632	0	0
United Kingdom	482,000	0	0
Yugoslavia	45,949	0	16,115
<b>Total</b>	<b>4,702,239</b>	<b>126,361</b>	<b>594,831</b>
<b>North America:</b>			
Bahamas (U. K.)	0	0	0
Barbados	NA	NA	0
Canada	121,774	346	0
Costa Rica	NA	NA	0
Dominican Republic	0	0	0
El Salvador	4	0	0
Guatemala	0	0	0
Haiti	NA	NA	0
Honduras	NA	NA	0
Jamaica	26	0	0
Martinique and Guadeloupe	NA	0	0
Mexico	0	63,074	266,900
Nicaragua	NA	NA	NA

TABLE 11.—Imports, exports, and production of manganese in metric tons—Continued

Continent and country	Imports	Exports	Production
North America—Continued:			
Panama	NA	NA	NA
United States of America	1,736,000	50,000	0
Total	1,857,804	113,420	266,900
South America:			
Argentina	22,284	0	31,613
Bolivia	NA	NA	214
Brazil	0	1,588,000	1,905,000
Chile	0	3,307	26,723
Colombia	NA	0	464
Ecuador	0	NA	0
Guyana	0	0	0
Peru	0	0	7,803
Trinidad and Tobago	0	0	0
Uruguay	0	0	0
Venezuela	NA	0	0
Total	22,284	1,591,307	1,971,817
120 country total	9,225,468	14,133,803	20,573,518

TABLE 12.—Imports, exports, and production of cobalt in metric tons

[Data are for latest year available; NA, information not available]

Continent and country	Imports	Exports	Production
Africa:			
Algeria	NA	0	0
Angola	NA	NA	0
Botswana	NA	NA	0
Cameroon	0	0	0
Congo (Brazzaville)	NA	NA	NA
Egypt (U. A. R.)	0	0	0
Ethiopia	NA	NA	0
Gabon	0	0	0
Ghana	0	0	0
Guinea	0	NA	0
Ivory Coast	NA	NA	0
Kenya	0	0	0
Liberia	0	0	0
Libya	0	0	0
Malagasy Republic	0	0	0
Malawi	0	0	0
Mali	NA	NA	NA
Mauritania	0	0	0
Mauritius	NA	0	0
Morocco	0	400	980
Mozambique	NA	NA	0
Nigeria	0	0	0
Rwanda	NA	0	0
Senegal	0	0	0
Sierra Leone	NA	NA	0
Somalia	NA	NA	0
South Africa	14	NA	0
Sudan	0	0	0
Tanzania	NA	0	0
Togo	0	0	0
Tunisia	0	0	0
Uganda	0	0	0
Upper Volta	0	0	0
Zaire	NA	5,690	13,426
Zambia	5	1,588	2,080
Total	19	7,678	16,486
Asia:			
Afghanistan	NA	NA	NA
Bahrain	0	0	0
Bangladesh	NA	0	0
Burma	0	0	0
China, People's Republic of	NA	NA	0
China, Republic of (Taiwan)	7	0	0
Cyprus	0	0	0
India	0	0	0
Indonesia	NA	NA	0
Iran	1	0	0
Iraq	NA	NA	0
Israel	0	0	0
Japan	5,000	3	0
Korea, Republic of (South)	0	51	0
Kuwait	NA	NA	0

TABLE 12.—Imports, exports, and production of cobalt in metric tons—Continued

Continent and country	Imports	Exports	Production
Asia—Continued:			
Lebanon	0	0	0
Malaysia	0	0	0
Nepal	NA	NA	NA
Oman	0	0	0
Pakistan	0	0	0
Philippines	0	NA	NA
Qatar	0	0	0
Saudi Arabia	0	0	0
Singapore	NA	NA	0
Sri Lanka (Ceylon)	0	0	0
Thailand	NA	NA	NA
Turkey	0	0	0
United Arab Emirates	1,260	102	1,590
Viet-Nam, Republic of (South)	NA	NA	0
Yemen (Sanaa)	0	0	0
Total	6,268	156	1,590
Oceania:			
Australia	50	0	469
Fiji	NA	NA	0
New Zealand	0	0	0
Total	50	0	469
Europe:			
Albania	NA	NA	NA
Austria	NA	NA	0
Belgium	NA	1,539	0
Bulgaria	NA	NA	0
Czechoslovakia	NA	NA	NA
Denmark	32	NA	0
Finland	5	703	925
France	1,670	558	0
Germany, Federal Republic of (West)	1,400	200	0
Greece	0	0	0
Hungary	NA	NA	NA
Iceland	0	0	0
Ireland	0	0	0
Italy	95	2	0
Malta	0	0	0
Netherlands	480	67	0
Norway	0	800	869
Poland	NA	NA	NA
Portugal	0	0	0
Romania	NA	NA	NA
Spain	NA	NA	NA
Sweden	6	5	8
Switzerland	6	1	0
United Kingdom	1,741	356	0
Yugoslavia	92	0	NA
Total	5,527	4,231	1,797
North America:			
Bahamas (U. K.)	0	0	0
Barbados	NA	NA	0
Canada	0	1,459	2,264
Costa Rica	NA	NA	0
Dominican Republic	0	0	0
El Salvador	1	0	0
Guatemala	0	0	0
Haiti	NA	NA	0
Honduras	NA	NA	0
Jamaica	NA	NA	0
Martinique and Guadeloupe	NA	0	0
Mexico	NA	NA	NA
Nicaragua	NA	NA	NA
Panama	NA	NA	NA
United States of America	4,950	166	0
Total	4,951	1,625	2,264
South America:			
Argentina	84	0	0
Bolivia	NA	NA	0
Brazil	161	0	0
Chile	0	0	0
Colombia	NA	0	NA
Ecuador	NA	NA	0
Guyana	0	0	0
Peru	0	0	0
Trinidad and Tobago	0	0	0
Uruguay	0	0	0
Venezuela	NA	0	0
Total	245	0	0
120 country total	17,060	13,690	22,606

TABLE 13.—Oil production, proved reserves, and potential resources

(Potential resources: See "Explanatory Notes" in text. Asterisk (\*) estimated; ... landlocked; SI, wells are shut in; Negl, negligible; NA, information not available. The onshore and offshore production and reserves may not add up to the totals where the onshore/offshore breakdown was not available)

Continent and country	1971 production						Cumulative production						Proved recoverable reserves						Potential resources (ultimate recoverable resources)						
	Millions of 42-gal bbl		Millions of metric tons		Millions of 42-gal bbl		Millions of metric tons		Millions of 42-gal bbl		Millions of metric tons		Millions of 42-gal bbl		Millions of metric tons		Millions of 42-gal bbl		Millions of metric tons		Millions of 42-gal bbl		Millions of metric tons		
	Onshore	Offshore	Total	Onshore	Offshore	Total	Onshore	Offshore	Total	Onshore	Offshore	Total	Onshore	Offshore	Total	Onshore	Offshore	Total	Onshore	Offshore	Total	Onshore	Offshore	Total	
<b>North America:</b>																									
Bahamas.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Barbados.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Belize.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Costa Rica.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dominican Republic.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
El Salvador.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Guatemala.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Haiti.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Honduras.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jamaica.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Martinique and Guadeloupe.....</b>																									
Mexico.....	164.6	177.3	341.9	23.2	1.8	25.0	4,697	78	4,775	661	11	672	NA	4,500	NA	NA	680	0	0	0	0	0	0	0	
Panama.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Puerto Rico.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
United States of America.....	3,552.1	548.6	4,100.7	478.8	74.0	552.8	*101,227	4,574	*105,801	*13,646	617	*14,263	*39,677	*5,690	45,367	*5,349	*767	6,116	0	0	0	0	0	0	
<b>Total.....</b>	<b>4,209.3</b>	<b>561.3</b>	<b>4,770.6</b>	<b>568.3</b>	<b>75.8</b>	<b>644.1</b>	<b>111,124</b>	<b>4,652</b>	<b>115,776</b>	<b>15,007</b>	<b>628</b>	<b>15,635</b>	<b>49,840.8</b>	<b>5,690</b>	<b>60,000.8</b>	<b>6,717.1</b>	<b>767</b>	<b>8,114.1</b>							
<b>South America:</b>																									
Argentina.....	151.9	0	151.9	21.7	0	21.7	2,083	0	2,083	291	0	291	<2,500	NA	<358	NA	358	0	0	0	0	0	0	0	
Bolivia.....	13.4	13.4	26.8	1.7	1.7	128	16	128	16	16	32	32	217	NA	217	25	25	0	0	0	0	0	0	0	
Brazil.....	13.4	13.4	26.8	1.7	1.7	128	16	128	16	16	32	32	217	NA	217	25	25	0	0	0	0	0	0	0	
Chile.....	32.9	32.9	65.8	1.7	1.7	172	23.4	172	23.4	23.4	0	23.4	<1,120	NA	<135	NA	135	0	0	0	0	0	0	0	
Colombia.....	78.1	0	78.1	11.1	0	11.1	1,650	0	1,650	234	0	234	1,663	0	1,663	236	236	0	0	0	0	0	0	0	
Ecuador.....	1.4	0	1.4	0.2	0	106	0	106	14	0	14	5,748	0	5,748	788	788	0	0	0	0	0	0	0	0	
Guatemala.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Paraguay.....	14.7	7.8	22.5	2.0	1.0	795	49	844	106	6	112	NA	NA	400	NA	50	50	0	0	0	0	0	0	0	
Trinidad and Tobago.....	27	20	47	4	4	1,013	281	1,294	145	40	185	1,229	271	1,500	176	39	215	0	0	0	0	0	0	0	
Uruguay.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Venezuela.....	1,295.7	0	1,295.7	183.0	0	183.0	27,630	0	27,630	3,944	0	3,944	<13,900	NA	13,900	<1,994	NA	1,994	0	0	0	0	0	0	
<b>Total.....</b>	<b>1,686.8</b>	<b>29.7</b>	<b>1,686.5</b>	<b>285.8</b>	<b>4.3</b>	<b>240.1</b>	<b>34,130</b>	<b>332</b>	<b>34,462</b>	<b>4,854.4</b>	<b>46.3</b>	<b>4,900.7</b>	<b>26,377</b>	<b>271</b>	<b>27,048</b>	<b>3,689</b>	<b>39</b>	<b>3,728</b>							
<b>Africa:</b>																									
Algeria.....	279.6	0	279.6	86.3	0	86.3	2,918	0	2,918	375	0	375	12,256	0	12,256	1,590	1,590	0	0	0	0	0	0	0	
Angola.....	5.6	41.4	47.0	0.7	5.0	5.7	130	78	130	11	11	18	46	1,200	1,206	167	167	0	0	0	0	0	0	0	
Botswana.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cameroon.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Congo (Brazzaville).....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Egypt (United Arab Republic).....	63.5	44.2	107.7	9.1	6.4	15.5	464	472	986	67	68	135	NA	NA	4,000	NA	NA	570	0	0	0	0	0	0	
Ethiopia.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ghana.....	2.6	17.4	19.9	3.4	2.4	5.8	190	20	210	20	0	SI	500	171	780	80	100	100	0	0	0	0	0	0	
Guinea.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ivory Coast.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Kenya.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Libya.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Malawi.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Malaysia.....	1,007.7	0	1,007.7	182.3	0	182.3	6,495	0	6,495	853	0	853	25,000	NA	>25,000	3,300	NA	>3,300	0	0	0	0	0	0	
Mali.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Mauritania.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Mauritius.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Morocco.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Mozambique.....	423.8	134.6	558.4	57.2	18.2	75.4	1,316	381	1,697	178	51	229	9,846	NA	11,680	NA	NA	NA	0	0	0	0	0	0	
Nigeria.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Senegal.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sierra Leone.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Somalia.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sudan.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Tanzania.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Togo.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Tunisia.....	32.4	SI	32.4	4.2	SI	141	SI	141	141	18	SI	18	478	116	594	62	15	77	0	0	0	0	0	0	
Uganda.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Upper Volta.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Zaire.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Zambia.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Total.....</b>	<b>1,837.6</b>	<b>232.0</b>	<b>2,069.6</b>	<b>245.2</b>	<b>32.0</b>	<b>275.2</b>	<b>11,596.2</b>	<b>978</b>	<b>12,574.2</b>	<b>1,527.7</b>	<b>137</b>	<b>1,664.7</b>	<b>48,681.2</b>	<b>6,621</b>	<b>59,282.2</b>	<b>6,494.2</b>	<b>880.1</b>	<b>7,864.3</b>							

TABLE 13.—Oil production, proved reserves, and potential resources—Continued

Continent and country	1971 production						Cumulative production						Proved recoverable reserves						Potential resources (ultimate recoverable resources)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
	Millions of 42-gal bbl		Millions of metric tons		Millions of 42-gal bbl		Millions of metric tons		Millions of 42-gal bbl		Millions of metric tons		Millions of 42-gal bbl		Millions of metric tons		Millions of 42-gal bbl		Millions of metric tons		Millions of 42-gal bbl		Millions of metric tons																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
	Onshore	Offshore	Total	Onshore	Offshore	Total	Onshore	Offshore	Total	Onshore	Offshore	Total	Onshore	Offshore	Total	Onshore	Offshore	Total	Onshore	Offshore	Total	Onshore	Offshore	Total																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
Europe:																										Austria.....	17.4	0	17.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Belgium.....	2.2	0	2.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Bulgaria.....	1.5	0	1.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Czechoslovakia.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Denmark.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Finland.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	France.....	13.5	0	13.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Germany, Federal Repub- lic of (West).....	53.1	0	53.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Greece.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Hungary.....	18.3	0	18.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Ireland.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Italy.....	NA	Malta.....	12	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Netherlands.....	12	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Norway.....	12.0	0	12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Poland.....	3.0	0	3.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Portugal.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Romania.....	100.7	0	100.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Spain.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Sweden.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Switzerland.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	United Kingdom.....	22.2	0	22.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Yugoslavia.....	252.3	2	254.3	0.3	36.2	6,025	64	6,089	824	9.3	833.3	7,278	8,840	16,423	594	1,217	2,253								Total.....																										Asia:																										Afghanistan.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Bahrain.....	27.3	0	27.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Burma.....	6.7	0	6.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Burma, People's Republic of.....	*182.5	Neg1	*182.5	*25.0	Neg1	*971	Neg1	971	<133	Neg1	133	<20,000	NA	20,000	<2,700	NA	<2,700	China, Republic of (Taiwan).....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Cyprus.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	India.....	47.7	0	47.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Indonesia.....	*23.0	0	*23.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Iran.....	1,439.5	218.0	1,657.5	195.3	28.9	224.2	NA	13,971	NA	NA	1,996	48,359	7,141	55,500	6,562	969	7,531								Iraq.....	624.9	0	624.9	0	0	0	0	8,129	0	0	1,093	35,990	0	35,990	0	0	4,840								Israel.....	<24.0	>22.0	44.5	<3.0	>6.7	153	9	162	21	22	22	14	15	29	2	2	4								Japan.....	4.1	0	4.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Korea, Republic of (South).....	*1,101.5	*63.3	1,164.8	*151.7	*9.0	160.7	<13,776	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Lebanon.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Malaysia.....	*2	0	*2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Nepal.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Oman.....	104.7	0	104.7	0	0	0	0	457	0	62	NA	NA	NA	5,200	NA	NA	700								Pakistan.....	3.4	0	3.4	0	0	0	0	73	0	10	38	0	0	38	5	5	5								Philippines.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Qatar.....	82.0	0	82.0	0	0	0	0	1,505	0	40	0	0	0	5,000	0	0	750								Saudi Arabia.....	1,294.1	446.3	1,740.4	176.4	60.8	237.3	11,697	3,228	14,925	440	2,634	95,168	62,267	157,475	12,972	8,448	21,460								Singapore.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Sri Lanka (Ceylon).....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Thailand.....	24.1	0	24.1	0	0	0	0	174.6	24	0	24	1	580.5	80	1	80	1								Turkey.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Union of Soviet Socialist Republics.....	2,634.6	81.0	2,715.6	358.5	11.0	369.5	33,440	847	34,287	4,550	4,955	<12,590	>1,410	75,000	<10,010	>190	10,990								United Arab Emirates.....	209.9	176.7	386.6	217.3	23.4	*318	*63	1,541	*122	*62	204	15,009	4,493	20,502	2,121	598	2,716								Vietnam, Republic of (South).....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Yemen (Sanaa).....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Total.....	8,184.7	1,114.7	9,299.4	1,106.2	150.4	1,256.6	77,119.2	5,532.6	96,652.8	10,495.1	748.6	13,135.7	378,798	76,621.5	467,569.5	51,523.1	10,414	63,537.1								Oceania:																										Australia.....	17.2	95.7	112.9	2.3	12.5	14.8	79.5	143.3	222.8	10.5	18.7	29.2	2,669	2,895	30	349	379								Fiji.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	New Zealand.....	0.5	0	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Total.....	17.8	95.7	113.5	2.4	12.5	14.9	80.9	143.3	224.																																
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Iran.....	1,439.5	218.0	1,657.5	195.3	28.9	224.2	NA	13,971	NA	NA	1,996	48,359	7,141	55,500	6,562	969	7,531																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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Korea, Republic of (South).....	*1,101.5	*63.3	1,164.8	*151.7	*9.0	160.7	<13,776	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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Oman.....	104.7	0	104.7	0	0	0	0	457	0	62	NA	NA	NA	5,200	NA	NA	700																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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Saudi Arabia.....	1,294.1	446.3	1,740.4	176.4	60.8	237.3	11,697	3,228	14,925	440	2,634	95,168	62,267	157,475	12,972	8,448	21,460																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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Union of Soviet Socialist Republics.....	2,634.6	81.0	2,715.6	358.5	11.0	369.5	33,440	847	34,287	4,550	4,955	<12,590	>1,410	75,000	<10,010	>190	10,990																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
United Arab Emirates.....	209.9	176.7	386.6	217.3	23.4	*318	*63	1,541	*122	*62	204	15,009	4,493	20,502	2,121	598	2,716																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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Total.....	8,184.7	1,114.7	9,299.4	1,106.2	150.4	1,256.6	77,119.2	5,532.6	96,652.8	10,495.1	748.6	13,135.7	378,798	76,621.5	467,569.5	51,523.1	10,414	63,537.1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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Australia.....	17.2	95.7	112.9	2.3	12.5	14.8	79.5	143.3	222.8	10.5	18.7	29.2	2,669	2,895	30	349	379																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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Total.....	17.8	95.7	113.5	2.4	12.5	14.9	80.9	143.3	224.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												



TABLE 14.—Natural gas production, proved reserves, and potential resources—Continued

Continent and country	1971 production						Cumulative production						Proved recoverable reserves						Potential resources (ultimate recoverable resources)					
	Billions of cubic feet		Billions of cubic meters		Billions of cubic feet		Billions of cubic meters		Billions of cubic feet		Billions of cubic meters		Billions of cubic feet		Billions of cubic meters		Billions of cubic feet		Billions of cubic meters		Billions of cubic feet		Billions of cubic meters	
	Onshore	Offshore	Total	Onshore	Offshore	Total	Onshore	Offshore	Total	Onshore	Offshore	Total	Onshore	Offshore	Total	Onshore	Offshore	Total	Onshore	Offshore	Total	Onshore	Offshore	Total
Europe:	NA	0	NA	NA	0	NA	NA	0	NA	0	NA	0	8,000	0	8,000	200	0	200	IV	IV	IV	IV	IV	III
Albania.....	67.1	0	67.1	1.9	0	1.084	28	0	28	0	28	0	500	0	500	16	0	16	IV	IV	IV	IV	IV	IV
Bulgaria.....	15.3	0	15.3	0.4	0	79	2	0	2	0	2	0	1,000	0	1,000	30	0	30	IV	IV	IV	IV	IV	IV
Czechoslovakia.....	32	SI	32	1	0	508	14	SI	14	SI	14	0	385	0	385	11	0	11	IV	IV	IV	IV	IV	IV
Denmark.....	0	0	0	0	0	0	0	0	0	0	0	0	500	0	500	11	0	11	IV	IV	IV	IV	IV	IV
France.....	286.9	0	286.9	8.1	0	3,322	94	0	94	0	94	0	6,900	0	6,900	190	0	190	III	III	III	III	III	III
Germany, Federal Repub- lic (West).....	488.5	0	488.5	13.8	0	1,852	52	0	52	0	52	0	14,000	0	14,000	380	0	380	IV	IV	IV	IV	IV	IV
Greece.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IV	IV	IV	IV	IV	IV
Hungary.....	130.7	0	130.7	3.7	0	831	24	0	24	0	24	0	3,000	0	3,000	85	0	85	IV	IV	IV	IV	IV	IV
Ireland.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IV	IV	IV	IV	IV	IV
Italy.....	NA	NA	NA	13.0	0	5,095	143	0	143	0	143	0	2,000	0	2,000	0	0	0	IV	IV	IV	IV	IV	IV
Malta.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IV	IV	IV	IV	IV	IV
Netherlands.....	1,631.6	0	1,631.6	46.2	0	4,846	137	0	137	0	137	0	83,000	0	83,000	2,350	0	2,350	VI	VI	VI	VI	VI	VI
Norway.....	190.7	0	190.7	5.4	0	1,573	45	0	45	0	45	0	5,000	0	5,000	140	0	140	IV	IV	IV	IV	IV	IV
Poland.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IV	IV	IV	IV	IV	IV
Portugal.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	V	V	V	V	V	V
Romania.....	943.0	0	943.0	26.7	0	7,384.3	209	0	209	0	209	0	9,771	0	9,771	274	0	274	IV	IV	IV	IV	IV	IV
Sweden.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IV	IV	IV	IV	IV	IV
Switzerland.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IV	IV	IV	IV	IV	IV
United Kingdom.....	5.7	654.9	660.6	18.5	18.7	212	6	>1,319	>1,319	>2	>87.3	>87.5	>5,900	>38,100	40,000	>200	<900	<900	IV	IV	IV	IV	IV	IV
Yugoslavia.....	42.4	0	42.4	1.2	0	212	6	0	6	0	6	0	1,400	0	1,400	50	0	50	IV	IV	IV	IV	IV	IV
Total.....	3,834.0	654.9	4,488.9	108.6	18.5	28,061.3	1,394	28,061.3	755.2	39.3	794.5	143,226	47,180	180,406	4,023	1,295	5,318							
Asia:	95.4	0	95.4	2.7	0	386.9	9.5	0	9.5	0	9.5	0	4,900	0	4,900	140	0	140	III	III	III	III	III	III
Afghanistan.....	116	0	116	1.5	0	285	8	0	8	0	8	0	24,500	0	24,500	680	0	680	III	III	III	III	III	III
Bahrain.....	20.4	0	20.4	0.6	0	51.6	1.5	0	1.5	0	1.5	0	9,000	0	9,000	250	0	250	III	III	III	III	III	III
Bangladesh.....	4.2	0	4.2	0.1	0	384	0	0	0	0	0	0	100	0	100	3	0	3	III	III	III	III	III	III
China.....	NA	NA	NA	4.2	>4,140	NA	>118	NA	>118	NA	>118	4,000	NA	>4,000	100	NA	>100	NA	II	II	II	II	II	II
India.....	38.5	0	38.5	1.1	0	220	6	0	6	0	6	0	600	0	600	17	0	17	IV	IV	IV	IV	IV	IV
Indonesia.....	51.0	0	51.0	1.4	0	337	10	0	10	0	10	0	1,500	0	1,500	42	0	42	IV	IV	IV	IV	IV	IV
Iran.....	NA	NA	NA	37.0	NA	865	NA	NA	NA	NA	NA	308	NA	200,000	NA	NA	5,700	NA	II	II	II	II	II	II
Iraq.....	219	0	219	6.6	0	2,819	80	0	80	0	80	0	22,000	0	22,000	600	0	600	II	II	II	II	II	II
Israel.....	4.4	0	4.4	0.1	0	41	1	0	1	0	1	0	60	0	60	2	0	2	IV	IV	IV	IV	IV	IV
Japan.....	NA	NA	NA	2.4	<848	NA	<24	NA	<24	NA	<24	<400	NA	<400	10	NA	<10	NA	III	III	III	III	III	III
Korea, Republic of (South).....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	III	III	III	III	III	III
Kuwait.....	619.6	0	619.6	17.6	0	10,440	296	0	296	0	296	0	57,992	0	57,992	1,642	0	1,642	III	III	III	III	III	III
Lebanon.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IV	IV	IV	IV	IV	IV
Malaysia.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IV	IV	IV	IV	IV	IV
Nepal.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IV	IV	IV	IV	IV	IV
Oman.....	178.5	0	178.5	2.2	0	342.8	9.7	0	9.7	0	9.7	0	2,000	0	2,000	57	0	57	III	III	III	III	III	III
Philippines.....	11.5	0	11.5	0.4	0	1,152	32	0	32	0	32	0	19,300	0	19,300	560	0	560	III	III	III	III	III	III
Qatar.....	42.0	0	42.0	1.2	0	693	20	0	20	0	20	0	8,000	0	8,000	230	0	230	III	III	III	III	III	III
Saudi Arabia.....	728.3	0	728.3	20.6	0	11,194	248	0	248	0	248	0	45,000	0	45,000	1,300	0	1,300	II	II	II	II	II	II
Singapore.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	V	V	V	V	V	V
Sri Lanka (Ceylon).....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IV	IV	IV	IV	IV	IV
Thailand.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IV	IV	IV	IV	IV	IV
Turkey.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IV	IV	IV	IV	IV	IV
Union of Soviet Socialist Republics.....	NA	NA	NA	212	<61,974	NA	<1,755	NA	<1,755	NA	<1,755	<546,000	NA	546,000	<15,000	NA	15,000	NA	II	II	II	II	II	II
United Arab Emirates.....	NA	NA	NA	7.2	>659	NA	>1325	NA	>1325	NA	>1325	>11,165	NA	11,165	>61	NA	61	NA	III	III	III	III	III	III
Viet-Nam, Republic of.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IV	IV	IV	IV	IV	IV
Yemen (Sanaa).....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	VI	VI	VI	VI	VI	VI
Total.....	2,157.0	333.7	2,490.7	60.9	9.4	33,302.1	1,175.3	3,302	111,755.3	2,763.7	93	3,164.7	749,222	13,821	980,543	20,786	380	27,313						
Oceania:	43.2	35.8	79.0	1.2	1.0	2.2	79.5	62.4	141.9	2.3	1.7	4.0	15,500	9,300	24,800	440	260	700	II	II	II	II	II	II
Australia.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IV	IV	IV	IV	IV	IV
Fiji.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IV	IV	IV	IV	IV	IV
New Zealand.....	10.6	SI	10.6	0.3	SI	>14.4	>4	SI	>14.4	>4	SI	>4	5,999.5	6,000	11,999.5	170	0	170	IV	IV	IV	IV	IV	IV
Total.....	53.8	35.8	89.6	1.5	1.0	2.5	89.9	62.4	156.3	2.7	1.7	4.4	15,500.5	15,299.5	30,800	440	260	870						
120 country total.....	82,912.5	4,753.3	87,665.8	981.9	184.5	1,355.7	594,745.6	28,327.4	644,720.0	16,955.2	745.0	18,256.2	1,431,130.5	131,228.3	1,601,659	39,976.9	3,656	50,445.9						

### ANALYSIS

This section is directed toward analyzing the coastal and shelf characteristics of the individual continents, the recent and historical trends in oil and gas production, the present status of exploration, resources, and reserves of oil and gas, and the distribution of oil, gas, and manganese nodules.

Imports, exports, and production of copper, nickel, cobalt (converted to metal content), and manganese (in gross weight of ore) are also tabulated to define present activity characteristics.

Tables 1-12, presented on a continent basis from tabulated data on individual countries, were computer generated utilizing GIPSY (General Information Processing System) (Addison and others, 1969) for storage and retrieval and IRS (Inquiry and Reporting System) (Sigma Data Computing Corporation, 1968) for processing.

In studying tables 1-12, it will be noted that within some columns basic data are not available, and as a result precise statements of values are not possible. For purposes of computerization, all modifiers (<, less than; >, greater than; and \*, estimated) were dropped; negligible amounts and shut in production were entered as zero. The omission of such data is not considered critical to the basic trends shown by the data.

### COASTAL AND SHELF CHARACTERISTICS

The coastal and shelf characteristics of each of the nations bordering on oceans or inland seas are presented in table 1. Such data are extremely useful in defining the offshore resource potential of a nation or continent, but must be used with caution, as the resource potential is a function not only of available area, but also of geology, geography, and accessibility.

Because of economic constraints imposed by exploration and production in depths of water greater than 200 meters, the figure of greatest importance to the resource potential is the shelf area to 200-meter depth. Table 1 indicates that the largest amount of shelf area covered by water of less than 200-meter depth surrounds Asia and North America, with Europe, Oceania, South America, and Africa having decreasing amounts. Therefore, the largest resource potential for offshore petroleum probably occurs in Asia and North America.

### OIL PRODUCTION

Table 2 shows the annual production of oil by nation and continent from 1960 to 1971.

The data in table 2 are particularly significant as petroleum is the largest single item in world trade,

both in dollar value and quantities traded. As a result, any significant change in production trends, reserves, or potential resources is of paramount significance to the world community.

Analysis of table 2 shows that approximately 26 percent of the total production of oil within the 120 nations is derived from North America, and the remainder is derived primarily from Asia. The trends displayed, however, must be modified because the production of the U.S.S.R. is tabulated within the Asian Continent. U.S.S.R. statistics are included with Asia because, although the major production and known reserves of the U.S.S.R. are in the Volga-Urals district of European Russia, the present major role of the Volga-Urals will decline and the center of U.S.S.R. production will leave European Russia for the first time (American Association of Petroleum Geologists, 1972, p. 1711-1722). This shift to the Asian Continent necessitates discussion of the U.S.S.R. with Asia in order to clearly assess the future impact of the Asian Continent.

Approximately one-half of the total production of oil within the 120 nations is derived from North America and the European part of the U.S.S.R.

The recent trend of production appears to be changing rapidly as evidenced by the "doubling time" (time required to double production using 1960 as the base production period) shown by table 2. The doubling time is approximately 2 years for Africa, 7 years for Asia, indeterminate for Europe, 2 years for Oceania, and an estimated 20 years for North and South America. The relatively short doubling period and large production for Africa and Asia suggest that the producing centers of oil are rapidly shifting to Asia and Africa.

Table 2 also shows that within continents the majority of oil production comes from a relatively few nations. This concentration of oil production magnifies the effect, on the individual countries, of any shifts in world price or consumption.

### NATURAL GAS PRODUCTION

Table 3 shows the annual production of natural gas by nation and continent from 1960 to 1971. An analysis of the data in table 3 shows that the trends of natural gas are very similar to those for oil. Table 3 shows a rapid growth in the production of natural gas, which strongly reflects the increased utilization of natural gas that began in 1948 and continues through the present.

The natural gas trends must be modified to account for the large production of natural gas in the region west of the Ural Mountains in the U.S.S.R.

Approximately 70 percent of the total U.S.S.R. production of natural gas presently comes from this region. When the western U.S.S.R. production is considered with the European production, approximately 75 percent of all natural gas production within the 120 countries comes from North America and the European part of the U.S.S.R. The percentage produced, however, does not represent what the distribution would be if Asia and Africa were closer to larger industrial areas where their natural gas would be more economically competitive.

The enormous increase in natural gas production shows a recent trend similar to that shown for petroleum, with a doubling time of 2 years for Africa (which appears to be increasing to a much longer period), 6 years for Asia, 4 years for Europe, approximately 2 years for Oceania, an estimated 16 years for North America, and 14 years for South America. The world average for doubling time is approximately 9 years. However, there appears to be a trend toward a longer doubling time in all nations.

The development of economic transport facilities resulting from liquefaction of natural gas and the development of specially built tankers has provided natural gas with new markets. In addition, the rising prices of competitive energy resources—oil and coal—coupled with environmental considerations have resulted in the demand for natural gas increasing at a faster rate than for petroleum. As a result, much of the natural gas that is presently being reinjected may be sold to meet the increasing demands. The economic gain would be felt most in Asia and Africa.

#### ONSHORE AND OFFSHORE OIL AND NATURAL GAS PRODUCTION

Table 4 shows the onshore and offshore production of oil and gas, and total production of oil and gas by countries and continents during the period 1960 to 1971. It should be noted that the totals of onshore and offshore oil and gas production do not equal the total oil and gas production for many countries. This discrepancy results from the lack of data to determine, for certain years and countries, what part of total production was onshore and offshore. As a result, the total production figure is accurate, whereas the onshore and offshore oil and gas totals are accurate only to the extent that available production data could be divided into onshore and offshore production.

Table 4 shows that the majority of the oil production is derived from onshore sources and that to date

offshore production accounts for 2 percent of the total 1960–71 production of Africa, 5 percent for Asia, 0.1 percent for Europe, 8 percent for North America, 64 percent for Oceania, 1 percent for South America, and 5 percent for all the 120 nations.

The majority of the gas production is also derived from onshore sources and to date offshore sources have accounted for approximately 0 percent of the total production for Africa, 2 percent for Asia, 7 percent for Europe, 8 percent for North America, 39 percent for Oceania, 2 percent for South America, and 6 percent for all the 120 nations.

#### PRODUCTION AND EXPLORATORY WELLS

Table 5 shows the number of production and exploratory wells drilled onshore and offshore and the total number of wells drilled for production and exploration.

Of particular interest, in terms of present exploration effort, is that only 10 exploration wells were drilled offshore in water depths greater than 200 meters whereas 678 exploration wells were drilled offshore in water depths less than 200 m. The distribution of exploration wells drilled in water depths of less than 200 meters shows that approximately 50 percent (320 wells) of all offshore exploration wells completed in 1971 were drilled offshore the United States. Only 368 offshore exploration wells were drilled in the rest of the world. Although the data suggest that only a small amount of drilling is being conducted offshore, there have been several large discoveries in Indonesia, the Persian Gulf, and the North Sea, which indicate such exploration is highly profitable. The dearth of exploration effort was anticipated by McKelvey and Wang (1970, p. 9) who stated: "Because of the higher cost of deep-water production and the wide availability of petroleum in shallower parts of the shelves, production from areas beyond the 200-meter isobath is likely to be largely restricted during the next decade to giant fields in the most favorable locations. It probably will not amount to more than 0.5–1.0 billion barrels a year by 1980, but might increase a few billion barrels a year by the end of the century when deep-water exploitation technology is further advanced."

#### RESERVES AND RESOURCES OF OIL

Table 6 shows the onshore, offshore, and total reserves of oil and the categories of estimated onshore, offshore, and total resources of oil.

Asia and North America are the dominant oil producers of the world today and also have the largest oil reserves for the world tomorrow. Asia, however,

contains over 70 percent of all the reserves of the 120 countries.

With the exception of Europe, the distribution of oil reserves relative to onshore versus offshore follows the same trend as did onshore versus offshore oil production.

In Africa, offshore reserves account for approximately 11 percent of the continent's total, while they account for 16 percent in Asia, 54 percent in Europe, 9 percent in North America, 92 percent in Oceania, and 1 percent in South America. Throughout the 120 nations, offshore oil reserves account for approximately 16 percent of total reserves.

In terms of oil resources, an analysis of table 6 shows that the major resources are in Asia, North America, and South America. The large resource potential of South America relative to present production (table 2) indicates a proportionally larger amount of undiscovered reserves relative to the other five continents.

A somewhat different trend is observed in the resource estimates of oil potential where available data in table 6 indicate that essentially equal amounts of oil resources are anticipated offshore and onshore.

The potential importance of offshore reserves and resources was indicated by McKelvey and Wang (1970, p. 8), who stated that "Offshore sources may come to supply 30-35 percent of the world's petroleum production by 1980."

Analysis of tables 2 and 3 shows that the major oil and natural gas producing areas are shifting from North America to Africa and Asia, as evidenced by the fact that in 1960 the North American Continent accounted for approximately 40 percent of the total oil production and has since decreased to 26 percent in 1971. During the same period Africa's production increased from 1.3 percent in 1960 to approximately 11 percent in 1971. The concentration of oil reserves and resources in Africa and Asia substantiates the contention that the shift will continue to be away from North America. The large resource potential of South America may, in time, cause a shift from Asia and Africa to the South American Continent.

#### RESERVES AND RESOURCES OF NATURAL GAS

Table 7 shows the onshore and offshore reserves of gas and the categories of estimated onshore and offshore resources of gas.

There is a close relation between oil and natural gas, and table 7 shows that the major reserves of natural gas occur in Asia (54 percent) and North

America (19 percent) as did the major reserves of oil.

Offshore natural gas reserves represent approximately 5 percent of total gas reserves in Africa, 1 percent in Asia, 24 percent in Europe, 11 percent in North America, 49 percent in Oceania, and 9 percent in South America. Offshore natural gas reserves represent approximately 7 percent of the total reserves of the 120 nations. As these figures are quite similar to those for oil reserves, it is anticipated that offshore natural gas production will follow the same trend as that described for offshore oil with a corresponding impact on natural gas production.

Table 7 shows that the major resources of natural gas within the 120 countries are in Asia, with lesser resources in decreasing order in Africa, Europe, South America, North America, and Oceania. Table 7 further shows that the major resources within Asia are in the U.S.S.R. Because of the increasing demand and use for natural gas, it is to be expected that the world supply and production of natural gas will shift from North America to the area of the U.S.S.R. east of the Ural Mountains.

#### MANGANESE NODULES

Table 8 shows the extant knowledge of manganese nodule concentration by country and continent with the distance increments of 0-50 miles, 50-200 miles, and 200-400 miles from the coastline.

The tabulation of data regarding manganese nodules, presented in table 8, shows that there is very little information concerning the distribution and concentration of manganese nodules within 400 nautical miles of the coastline.

Where information is available, it shows that with few exceptions manganese nodules do not occur within the area of 0 to 400 miles from the coastline, and where they do occur within this area they are not sufficiently abundant to be of economic significance. Therefore, although substantial quantities of manganese nodules are known to exist in the deeper ocean basins (McKelvey and Wang, 1970) and locally contain sufficient copper, nickel, cobalt, and manganese to be economically exploited (Mero, 1965, p. 191-192, 198-200), they do not represent a viable economic phenomenon within the coastal limits of the 120 countries.

Tables 9, 10, 11, and 12 show the imports, exports, and production of copper, nickel, manganese, and cobalt, respectively, in the 120 countries.

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